

AMATEUR RADIO

JUNE, 1957

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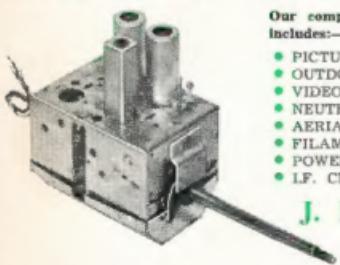
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2112.5 Ke.	5456	Ke.	6225	Ke.	6825	Ke.	7174	Ke.
2112.5 Ke.	5530	Ke.	6255	Ke.	6850	Ke.	7175	Ke.
2208.1 Ke.	5633.333	Ke.	6275	Ke.	6875	Ke.	7200	Ke.
2442.5 Ke.	5655.333	Ke.	6300	Ke.	6900	Ke.	7225	Ke.
2443 Ke.	5700	Ke.	6325	Ke.	6925	Ke.	7250	Ke.
2732 Ke.	5722.222	Ke.	6350	Ke.	6950	Ke.	7275	Ke.
2760 Ke.	5725	Ke.	6375	Ke.	6975	Ke.	7290	Ke.
2979 Ke.	5744	Ke.	6400	Ke.	7000	Ke.	7325	Ke.
2999 Ke.	5750	Ke.	6425	Ke.	7002.5	Ke.	7350	Ke.
3380 Ke.	5775	Ke.	6450	Ke.	7063	Ke.	7375	Ke.
3500 Ke.	5825	Ke.	6475	Ke.	7065	Ke.	7400	Ke.
3533 Ke.	5858	Ke.	6497.5	Ke.	7010	Ke.	7425	Ke.
3535 Ke.	5852.5	Ke.	6500	Ke.	7011.75	Ke.	7450	Ke.
3537 Ke.	5875	Ke.	6522.5	Ke.	7012	Ke.	7475	Ke.
3892 Ke.	5900	Ke.	6525	Ke.	7018	Ke.	7500	Ke.
3925 Ke.	5925	Ke.	6547.5	Ke.	7021.7	Ke.	7525	Ke.
4096 Ke.	5950	Ke.	6550	Ke.	7025	Ke.	7550	Ke.
4172 Ke.	5975	Ke.	6561.111	Ke.	7032	Ke.	7575	Ke.
4205 Ke.	6000	Ke.	6575	Ke.	7032.6	Ke.	7600	Ke.
4285 Ke.	6050	Ke.	6625	Ke.	7075	Ke.	7650	Ke.
4445 Ke.	6075	Ke.	6650	Ke.	7100	Ke.	7675	Ke.
4600 Ke.	6083.3	Ke.	6675	Ke.	7125	Ke.	7700	Ke.
4815 Ke.	6100	Ke.	6700	Ke.	7145	Ke.	7725	Ke.
4930 Ke.	6125	Ke.	6725	Ke.	7150	Ke.	7750	Ke.
5000 Ke.	6150	Ke.	6750	Ke.	7155	Ke.	7775	Ke.

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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcast.

VK3SWI: Sundays, 1100 hours EST, 7146 Mc.; 2000 hours EST, 144 Mc. No frequency checks available from VK3WI. Intrastate working frequency, 7050 Mc.

VK3SWI: Sundays, 1150 hours EST, simultaneously on 3973 and 7146 Mc., 97.5 and 146.25 Mc. Intrastate working frequency 7135 Mc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK3WI: Sundays, 0900 hours EST, simultaneously on 3546 and 14342 Mc. 2550 Mc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK3WI: Sundays, 0530 hours WAST, on 7146 Mc. Frequency checks are given by VK3MD and VK3WI by arrangements on all bands to 56 Mc.

VK3WI: Sundays, at 1000 hours EST, on 7146 Mc. and 3672 Mc. No frequency checks available.

VK3WI: Sundays, 1000 hours EST, simultaneously on 3.5, 7, 14 and 144 Mc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

AMATEUR RADIO

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EDITORIAL



FIFTY AND OVER

Just three years ago Federal Executive were able to announce that the Postmaster-General's Department had approved of the issue of a new class of licence, the Technician's Licence, based on the Limited Amateur Operator's Certificate of Proficiency. The response to the new class of Certificate was most gratifying, particularly to those who had striven so hard to secure this additional privilege. Holders of the L.O.A.C.P. have been welcomed to the ranks of the Institute and have already made contributions to our literature and to our knowledge.

In Amateur circles, however, the v.h.f. region is generally assumed to start at the 56 megacycle point and it was a matter for some concern that the new class of licensees were not allowed to operate below 144 megacycles. In technique, the 56-80 Mc. band is a good starting point for v.h.f. Methods used in that band can give a helpful introduction to v.h.f. for the Amateur who has been brought up on the h.f. bands. Altogether, it is a very useful band.

Executive was particularly pleased, therefore, to be informed that the Postmaster-General's Department had accepted the representations of the Wireless Institute that the 56-80 megacycle band should be opened to holders of a license based on the L.O.A.C.P. This practical demonstration that the Administration is willing to listen to a case based on sound reasoning gives encouragement to Federal Executive in its efforts to carry out the policy of the Institute as formulated by the Federal Council.

With the participation of the full range of "fifty and over" by L.A.O.C.P.s, as well as by A.O.C.P.s, we can expect accelerated activity in the 56-80 Mc. band with consequent further advances in technique and experience. The urgency of thoroughly testing every band for emergency purposes in varying conditions will be helped by this welcome extension of Amateur activity.

FEDERAL EXECUTIVE.

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Modifying the AR7 Receiver

PART TWO

From the brief description in Part One it should be apparent to all owners that the principles embodied in the design of this receiver are standard and shouldn't deter anyone from making the following modifications.

CATHODE BIAS AND R.F. GAIN CONTROL

In order to have a receiver which can operate under a very wide range of input voltages and which will remain stable, the last ounce of gain cannot be aimed at and a 1 watt resistor (R18) was connected between h.t. and the cathode bias bus-bar. This provided anything from 15-30 volts bias for r.f. and i.f. gain control and in my AR7 it gave a minimum of 5 volts when the potentiometer (R19) was supposedly shorted out resulting in lack of sensitivity and poor a.v.c. characteristic. Hunt out this resistor and remove it—the range of working conditions encountered in Amateur QSOs does not require a cut-off bias.

CONVERTER

If the heater chain is still on 12 volts it is necessary to choose replacement valves with 300 Ma. heaters, hence the choice of an EHC53 for the converter stage. Remove the socket and replace with a good mica or isolantite; discard the shield and earth No. 1 pin as usual to the chassis immediately beside the pin. Rewire the socket with the heaters above earth by-passed with good mica or ceramic capacitors—value is not critical.

The oscillator grid capacitor (C14, a 100 pF.) should be silvered mica (or ceramic with a zero drift coefficient) and the grid resistor (R12) a 1 watt, 50K ceramic of very low capacitance. Each component should be rigidly mounted to ensure mechanical stability.

The screen supply and the oscillator h.t. is obtained from a dropping resistor (R13) and is by-passed with a pair of capacitors (C18). To reduce the con-

verter noise to a minimum, ensure that the group of four parallel 50K resistors is replaced with an equivalent 12.5K stabilised carbon resistor or group.

If the original power supply using the pair of 6X5GT valves is still intact, the h.t. supply is very stable and there is no need for a voltage regulator tube here. But it was found after the power transformer burnt out! (mainly due to failures of cathode-heater insulation of the 6X5s) and another inserted and the rectifier changed to a 5V4G, that on 21 Mc. and higher, the changes in h.t. due to a.v.c. action caused the oscillator frequency to vary unduly and a v.r. tube was necessary to stabilise the h.t. at 100 volts. A VR105 will fit under the chassis quite easily.

R.F. STAGES

The above simple straight-forward alterations should improve the signal-to-noise ratio quite a bit and the next move is to provide a good hefty signal to the converter, as free of valve and component noise as possible! The AR7 has two r.f. stages from which this ideal can be achieved, believe it or not we cynics.

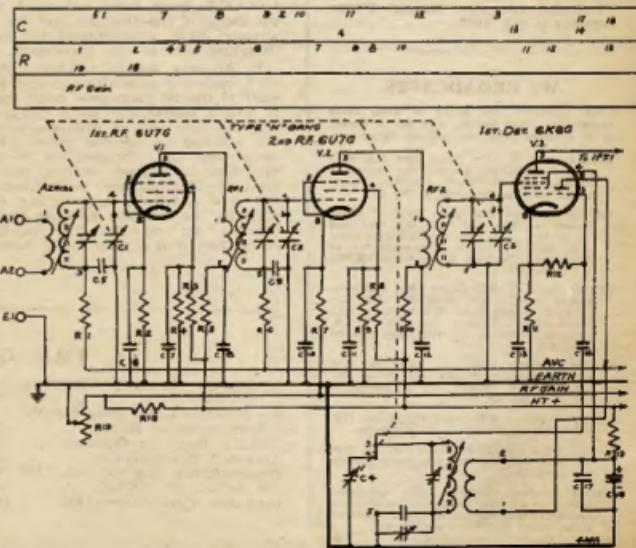
Let us discuss the function of each stage as we need it to operate. First the aerial coupler, first r.f. valve stage. Here we need all the gain that it is possible to achieve so the logical choice will be a tube with a G_m well above 7,000. The RL7 or EF54 gives this with an equivalent noise figure of 700 ohms or less. It has the disadvantage of having

BY G. M. BOWEN,* VK5XU

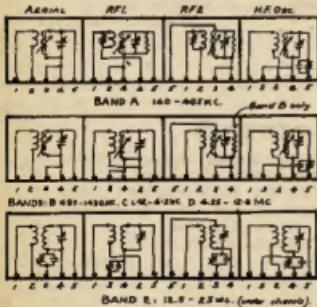
Remove the octal socket and replace with a micanol nine-pin locat located with the grid pin nearest the coil container. Rewire heaters and by-pass the outer lead to earth as for the converter. Solder a small shield across the socket to isolate the output circuit from the input grid leads. The cathode resistor of 150 ohms—carbon—1 watt—is next wired and ceramic miniature by-pass 2,200 pF. capacitors attached to cathode and screen pins. A decoupling resistor of 1 to 2 K is included in the screen lead from the h.t. bus-bar. A heavy feature of this tube (like the EF50) is the 250 volt screen operating voltage. The suppressor is internally connected.

Remember that to get high gain it is necessary to have very closely spaced elements and therefore any voltage which may be applied from the transmitter accidentally will damage the tube within seconds! Therefore, include a self-bias cut-off protection by including a 100 μ F. capacitor between the coil connection and the grid pin, and a 1 megohm $\frac{1}{2}$ watt to earth. This circuit is a standard connection in Service equipment and as there is no a.v.c. applied to this stage now, it is a very wise precaution to take.

Drill a hole in the front panel, at the same level as the noise limiter control but on the left hand side of the



* 73 Portrush Road, Toorak Gardens, S.A.



AR7 Coil Box Connections.

tuning dial, to take a small variable capacitor for an aerial tuning control. Any type will do here, but it should have a maximum value of 100-150 pF. to be able to accommodate the change across the tuning range. Connect this across the coil—not across the tuning gang—and when re-aligning these stages set it at half value. Don't be frightened by the fact that the stage may "take off" when a high impedance aerial is used—detune slightly and still get the greatest gain possible.

Now, what about the second r.f.? Well, having obtained maximum gain from the first r.f. at the expense of some selectivity, due to the low input impedance of the RL7, we should aim to get as much selectivity as possible to reduce second channel interference. With the coil circuitry as it is, this requires a valve with a high impedance input and the 6U7G or the 6K7G will fill the socket hole very nicely here. There is no point in going for gain in this stage as the signal-to-noise ratio is going to be determined in the first r.f. stage primarily. If single ended tubes are favoured it may pay to experiment with a semi-remote cut-off tube like the 6SG7. However, the a.v.c. line would then have to be modified to limit the action to a shorter operating base.

One further modification creates operating ease rather than improved signals. A small single pole single throw toggle switch can be easily mounted in place of the "a.v.c. b.f.o." one already there, and a further one mounted immediately above provides separate controls for the a.v.c. and b.f.o. which is an added advantage in most circumstances. Since the a.v.c. is derived from a connection to the primary

of the third i.f. very little b.f.o. signal gets into the rectifier diode and with the r.f. gain control reduced it is hardly ever necessary to cut-off the a.v.c. when receiving c.w. The a.v.c. is obtained from a delayed action circuit switch.

A final word about the wiring of the first r.f. stage. Don't forget to remove the a.v.c. decoupling resistor R1 and condenser C5 and earth position 5 on the coil contactor strip.

Re-alignment of each coil box will now be necessary. Follow the instruction book or the text in Part One of this series. In order to get the antenna trimmer capacitor to resonate the coil over the range of the tuning required, it may be necessary to remove the slug from some coils or disconnect the coil trimmer in Band E.

APPENDIX

EF54-RL7 high slope r.f. pentode (VR136):

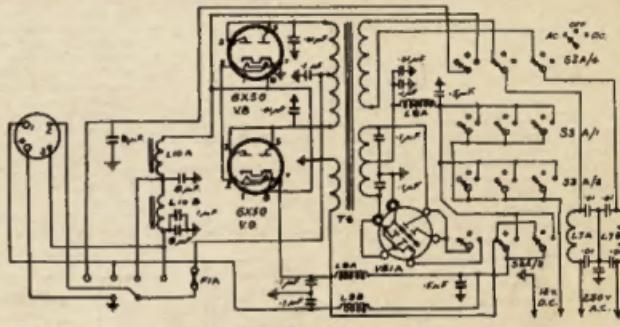
Socket: B9G octal nine-pin.

Heater: 6.3 v. 0.3 amp.; Ep 250 volts; Eg2 250 volts; Ip 10 Ma.; grid bias -1.7 volts; gm 7.7 Ma/V; Plate resistance, 500K.

Socket connections—

- 1—Heater.
- 2—Plate.
- 3—Screen grid.
- 4—Cathode-suppressor.
- 5—Cathode.
- 6—Control grid.
- 7—Cathode.
- 8—Cathode.
- 9—Heater.

Where by-passing is required, connect capacitors with as short leads as possible directly to the chassis at the nearest point.



AR7 Power Supply.

C	16	18	20	22	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	C
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Although in principle a large number of circuits can be obtained by combining grounded emitter, grounded base or grounded collector configurations with transformer or R-C coupling, in practice transistor audio amplifiers tend to follow a simple pattern. A typical circuit can be considered to have grounded emitter stages in cascade, with R-C coupling, and with d.c. stabilization provided by the potential divider and emitter resistor method.

The maximum power gain available with perfect matching (and transformer coupling) when the effective load resistance

in the collector circuit $R_L = \sqrt{r_{22} \cdot r_{out}}$ and the effective

source resistance $R_s = \sqrt{r_{11} \cdot r_{in}}$ is

$$\left(\frac{a'}{\sqrt{r_{11}} + \sqrt{r_{in}}} \right)^2 \cdot r_{22}.$$

R-C coupling is preferred generally to transformer coupling for low cost and phase shift and good response, but the power gain of each stage then arises solely from the inherently high current gain of the grounded emitter stage, and the higher gain which would be available by impedance matching with the transformer is not achieved.

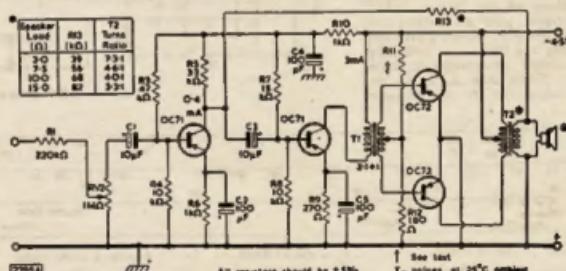
The factors entering into the design of an R-C coupled transistor cascade are not difficult to appreciate; many of them are similar to those encountered when working with valves. The collector voltage and current are limited by d.c. ratings $V_{ce\max}$ and $I_{c\max}$, and by a.c. ratings $V_{cepk(\max)}$ and $I_{cpk(\max)}$. For high gain and output power the battery voltage should be high, but a lower voltage and hence smaller current drain is more economical. The high value of collector load resistance required for maximum gain cannot be obtained with R-C coupling, as there is no advantage in making the collector load very much greater than the effective parallel input impedance of the next stage. In addition, the load resistance and collector current determine the voltage available across the transistor, which is also reduced by the emitter resistance included for stabilizing. The collector current should therefore be small so that a large collector load resistance can be used; on the other hand a large collector current swamps the variation in collector leakage current $I_{c(o)}$ with temperature.

After allowing for these various conflicting claims, the number of stages is chosen to give the required overall gain when feedback is applied. Since the signal swing in the early stages is small, the d.c. working point can be chosen for low

current drain (and noise), provided they have potential divider and emitter resistor d.c. stabilization. The power gain in the grounded emitter R-C coupled stage can be calculated from $(a')^2 R_L / r_{in}$, the a.c. current gain being a' and the voltage gain $a' R_L / r_{in}$. This expression assumes that R_L is very much smaller than r_{22} and r_{out} .

Here, a' , r_{in} , etc. are small-signal parameters given in published data and computed for the working point employed. As the load on an R-C coupled stage is formed by its collector resistance in parallel with the input resistance of the following stage, the power and voltage gain for each stage can be calculated by working backwards through the cascade.

Class AB push-pull operation in which the bias corresponds very nearly to that for true Class B operation is a natural choice for the output stage when a transistor amplifier is to be designed as a power amplifier, that is, to give the highest output power permitted by the collector dissipation P_{Cmax} , without objectionable distortion. The quiescent power consumption is very small and the efficiency is high. The Mullard OCT72 is intended for this mode of operation. An actual circuit is shown in the diagram, the output power being 200mW for 10% total harmonic distortion for an input of about 6mV at C1 or 500mV at R1. Negative feedback is applied over the driver and output stages by R13, which is matched to the loudspeaker. A small amount of bias is provided to the OCT72's by the potential divider R11-R12, which is effective in reducing the



high crossover distortion inherent in a true Class B transistor output stage.

The value of R11 must be chosen from the range 6.8, 6.2, 5.6, 5.1, 4.7, and 4.3k Ω so as to adjust the total quiescent current in the output stage to 1.3mA \pm 10% at 20°C or 1.6mA \pm 10% at 25°C. The operating range with speech and music is 15°C to 45°C ambient temperature and 4.5V to 2.7V (or even 2.0V, depending on the distortion tolerated by the listener).

MULLARD ALL-TRANSISTOR AMPLIFIER - TRANSFORMER DETAILS

Interstage Transformer

"C" core, 0.004 in. sq. English Electric HWR/30/6/5.
Window length and breadth = 11/16 in. x 5/16 in.
Strip width = 5/16 in.; Build-up = 5/16 in.
Length of flux path = 2.53 in.; Net area = 0.09 in.²
Primary = 2000 turns of 38 s.w.g. enamelled copper wire. D.C. resistance = 144 ohms.
Secondary = 2 x 1000 turns of 38 s.w.g. enamelled copper wire.
D.C. resistance = 60 ohms \pm 75 ohms.
Shunt inductance = 10H with primary current of 3mA d.c.

Output Transformer

"C" core, 0.004 in. sq. English Electric HWR/30/6/5.
Window length & breadth = 2 in. x 1 in.
Strip width = 1 in.; Build-up = 1 in.
Length of flux path = 2.53 in.; Net area = 0.178 in.²
Primary = 2 x 360 turns of 23 s.w.g. enamelled copper wire.
D.C. resistance = 1.45 ohms \pm 2.45 ohms.
Secondary (for 10 ohms load): 180 turns of 20 s.w.g. enamelled copper wire.
D.C. resistance = 0.57 ohms. Short inductance $>$ 0.5H.

ISSUED BY THE TECHNICAL SERVICE DEPARTMENT:

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ASSOCIATED WITH MULLARD LIMITED, LONDON; MULLARD OVERSEAS LIMITED



An Effective Low-Power 144 Mc. Transmitter or Exciter

BY V. KERR,* VK4LK

IN breaking into the 144 Mc. field, one has a veritable wealth of technical material to comb for ideas and inspiration, however when it comes to actual results, these have in some of my "set-ups" not been in keeping with that claimed for them by the various writers.

While our American counterparts are very prone to the miniature twin triodes for crystal oscillator and frequency multiplying stages, I am afraid in my experience I cannot share their enthusiasm for these smaller tubes. They certainly will provide the frequency required, but not enough r.f. is available to be of much practical use for driving a tube that will generate a reasonable amount of r.f. at 144 Mc. for a final as the case may be.

The line-up in this unit is a 6AQ5 (8 Mc. xtal) and tripling to 24 Mc., a 6BJ5 tripling to 72 Mc., a 5763 doubling to 144 Mc., and a 6146 running straight on 144 Mc. Using the 6146 as per the manufacturer's recommended conditions, this unit will provide an honest 25 watts of r.f. output, and modulates well without any instability or nonsense. Naturally the r.f. feedback through the modulator is another problem and I should think one in which every case would be an individual in the matter of getting rid of it.

The unit is built on a $15 \times 5 \times 5$ "x 2½" chassis with a 5×4 " partition to mount the 6146 horizontally. This partition is mounted 7" from one end. With the exception of the split-stator or butterfly condenser used in the final plate tuning of the 6146, all other variable capacitors are 3-30 pF. Philips' concentric trimmer types.

All components and tuning circuits up to 72 Mc. are kept below the chassis.

The inductive coupling arrangement in the plate circuit of the 5763 is above the chassis and has the shield partition between it and the 6146. Pin 5 connection of the 6146 socket being so arranged the end of the inductance goes via a small ceramic bushing direct, giving the absolute minimum of lead length. The 1 watt resistors (1,000 ohm 5763 plate, and 22,000 ohm 6146 grid coil) come up through the chassis via ½" holes drilled in the chassis at the appropriate points. The screen dropping resistor for the 6146 is made from four 100,000 ohm 1 watt resistors in parallel. The v.h.f. chokes used in the screen of the 6146 and plate circuit are some by Eddystone, being wound on a ½" diameter rod with a fine gauge (approximately 28) wire, are spaced to cover about 11" of winding length.

The connections numbered 1-4-6-7-8 of the 6146 socket are brought out via separate pieces of 22 gauge tinned wire to a common tie point provided by a piece of copper strip ½" wide and positively soldered to the chassis as close

and conveniently as possible to the socket of the 6146.

One would think the shield partition would provide a sufficiently low impedance path to r.f., however on initial trial misbehaviour of the 6146 suggested this line of action.

Likewise pin 8, which is the metal ring around the base of the 6146. A single connection here was not good enough and a piece of phosphor-bronze strip was soldered to the chassis so that it applied a reasonable amount of

to operate the 6146 under modulated conditions.

In my own case the unit is used as an exciter for an 829B stage. Those who have used an 829B will appreciate it wants its share of grid drive to work effectively, and with the unit used as an exciter with 300 volts common to all stages it is possible to get 18 Ma. of grid drive on the 829B grids (unloaded); the usual 12 Ma. as recommended for the 829B is easily obtained using a link line between the 6146 and the

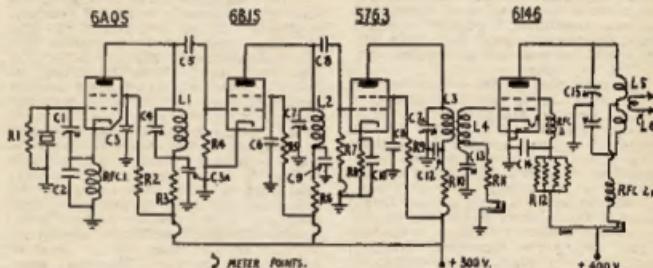


Figure 1.—144 Mc. Transmitter.

C1, C4, C7, C13-3-30 pF. trimmers.

C5, C8-50 pF. trimmers.

C9, C10, C11, C12, C14-0.001 uF.

R1-100 ohms.

R2-47,000 ohms.

R3-10,000 ohms.

R4-8,000 ohms.

R5-6,100 ohms.

R6-1,000 ohms.

R7-100 ohms.

R8-33,000 ohms.

R11-32,000 ohms.

R12-Four by 6.1 megohm.

RFC1-0.5 mH.

RFC2-RFC8A—See text.

L1-L2 turns No. 22, ½ inch diam., spaced over ¼ inch.

L3-L4 turns No. 18, ½ inch diam., spaced over ½ inch.

L5-L6 turns No. 18, ½ inch diam., spaced ½ to 1½ inch.

L7-L8 turns No. 18, ½ inch diam., spaced ½ inch, tapped at centre with 22,000 ohm resistor.

L9-L10 turns No. 18, ½ inch diam., with ½ inch gap at centre, each 8 turn section spaced ½ inch between turns.

L11-L12 turns, ½ inch diam. for 300 ohm line feed; 2 turns probably sufficient for 75 ohm line.

spring tension to the metal ring of the 6146. These measures were all that were required to tame the 6146.

The split-stator or butterfly condenser (15-15 pF.), as used in the plate circuit of the 6146, could well be a little wider spacing than the usual for this type, as on really applying the modulation sparking over between plates is evident. If used as an exciter normal spacings are ample.

The metering points on the circuit diagram are two lugs of an insulated lug strip, which can be bridged after metering is complete with a soldered joint. They allow the various circuits to be tuned to resonance and once adjusted need no further attention.

Using 300 volts on the 6AQ5-6BJ5-5763 stages, the maximum grid drive at the grid of the 6146 is 2½ Ma., with the 6146 unloaded. With 400 volts on the 6146 and loaded to 150 Ma. input, as measured at the jack as shown on the diagram, the grid drive falls away to round 1½ Ma. This seems to be ample

grids of the 829B (inductive coupling in all cases). The inductive coupling between the plate of the 5763 and grid of the 6146, the two coils L3 and L4 (edge turns) finish up almost touching over the greater part of the first turn in each case. These coils are mounted with their "cold" ends to one another.

— — —

POSTMASTER GENERAL'S REPLY TO QUESTION

In reply to a question by Mr. Brimblecombe (C.P., Qld.), The Postmaster General, Mr. Davidson, said in the House of Representatives on Thursday, 9th May:

"There was no serious interference by commercial operators of the frequencies allocated to amateur radio operators and there was no need for alteration of the present frequency allocation."

Extract from the Melbourne "Herald," 9/5/57.

Approach to Conversion

BY N. BURTON,* BERS11494

MANY Amateurs influenced by glowing stories and accounts of converters decide to build one for use ahead of their receiver and after spending a considerable amount of time, trouble and money, are very disappointed with the results. This state of affairs occurs far oftener than is generally realised and results from the lack of complete appreciation of the problems involved.

There are a large number of pitfalls and we cannot do better than construct a mythical converter in order to find them. Let us therefore build a converter to cover the range 45 to 100 Mc. Such a range seems enormous at first sight, but a little thought will show the tuning range is only a ratio of 2:1 and quite normal. Our converter has to have an r.f. stage, a mixer and separate oscillator, employ ganged tuning and have a good dial. This latter should be regarded as a "sine qua non" in any event.

The next step is to decide the i.f. to be used. It is here that the first trouble arises. Many articles speak airily of using an i.f. of 7 Mc. This is chosen as a good compromise against images and yet preserves the good amplification needed. This being so, one plunges in recklessly whereas what one should do is to have a good listen round on the receiver to be used as the i.f. on the chosen frequency with the aerial and earth terminals strapped together to see what can be heard; in most cases it will be plenty.

Having thus found that 7 Mc. is not suitable as an i.f., it is necessary to try another; 10 Mc. is often suggested. Here again the same procedure must be followed. It is quite likely that this will be equally unsuitable.

What are we to do then? The answer is to get down to some investigation. To do this, attach a very short piece of wire, say about 12 inches long, to the aerial terminal of the receiver and starting at 7 Mc. tune slowly downwards in frequency until you come to a band of clear frequencies about 200 Kc. wide. It is suggested this be done after dark as daylight searches can lead to disappointment later.

By the time you reach such a spot you will be in the region of 3 Mc. in all probability. At this point refrain from rubbing the hands together and deciding on 3 Mc. A little reflection will show that if this frequency is chosen then it will be impossible to use a frequency standard of 100 Kc. or multiples thereof because of possible break-through. The correct thing to do is to off-set the proposed i.f. by 10 or 20 Kc. from 3 Mc. You are now in a position of having a satisfactory i.f.

It may be argued that 3 Mc. will allow images at spots. This is true, but the images are very few and in the rare event of them falling into the pass-band of a received signal, it is quite easy to shift the i.f. (that is the main receiver tuning) by a shade, when the signal will move one way and the image the other.

As far as the two Amateur bands in the compass of our converter are concerned no image troubles will occur.

A point in favour of this lower i.f. is that there is ample gain available and there is no need to run the receiver used as the i.f. flat out. This results in an improved signal-to-noise ratio.

Having satisfactorily dealt with the choice of i.f. it now remains to investigate the oscillator of the receiver to be used as i.f. Many receiver oscillators are excellent low power transmitters. They should not be but they are, and this being so, the oscillator will radiate harmonics and these harmonics, if strong enough, will get into the front end of the converter and give rise to "birdies".

It is necessary here to procure by any means possible a second receiver, preferably of the det. plus 1 i.f. type as these give excellent results and eliminate anomalies that can occur if a superhet is used. With the second receiver operational, attach again a short length of wire to the aerial terminal and switch on the receiver to be used as i.f., setting the dial to the proposed i.f. Starting at the second harmonic of the oscillator, listen progressively higher to each harmonic. The early ones will be fairly strong, but by the time you reach the 21 Mc. band they should be getting weaker and at 28 Mc. should be either inaudible or almost so. If they are not, then the i.f. receiver must have attention. This may seem hardly necessary, but I would point out that one very popular communication receiver radiates harmonics of such strength that it is almost impossible to use a converter ahead of it. The same receiver will cause, through harmonic radiation, t.v.i. at 75 yards.

Should you find the i.f. receiver radiates strong harmonics steps should be taken to reduce them by reducing the plate volts on the oscillator, adding extra shielding and if necessary a trap or filter in the cathode circuit. These harmonics can be attenuated to a sufficiently low level without upsetting the operation of the receiver. Once this point is cleared the construction of the converter may be commenced.

As regards the actual construction of the converter all normal precautions should be taken and then the refinements may be included. It is advantageous to by-pass each valve at the heater pins with a 1,000 pF. condenser; excellent ceramic condensers of very small size are available. In addition, the heater leads should be by-passed at point of entry to chassis. The high voltage line should be dealt with likewise and all anodes decoupled. Interstage screens between all stages are recommended and injection of the heterodyne can, with electrical and mechanical advantage, be via a 1 pF. condenser bridging the stator legs of the mixer and oscillator sections of the three-gang condenser.

The anode lead of the mixer should be through shielded cable to the output i.f. transformer and the shielded cable bonded to the chassis at each end.

A supply voltage of 130 volts is ample. This will drop to about 110 volts on load, assuming a valve line-up of 6AK5-6AB4-6C4. As to alignment, this presents no difficulty and can be done with no power applied by means of a g.d.o. The coils should be carefully made originally and as alike as possible with a result that tracking is easier. Tackle the oscillator first and set it to cover the range 45 to 100 Mc. or so. Next tackle the other two coils and set these to cover 45 to 100 Mc. This can be done by careful spacing of the turns. When tracking is good at both ends of the dial, check at other points. It may be found odd spots are a bit off, but if the tracking as a whole is good the broadness of the circuits, inescapable on these frequencies, will compensate.

Don't forget to resonate the i.f. output transformer to the chosen i.f. The power may now be applied, but before doing so disconnect the ground end of the oscillator grid leak and connect it to chassis via a 0.1 Ma. meter. Swing the tuning condenser through the range and observe the grid current. It should be without violent fluctuations; if it is not, adjust the plate supply, cathode tap, and feedback condenser. It is possible to get it very smooth over the range with obvious advantages.

Once this is done and the resistor resoldered, it is suggested that a close fitting bottom be fixed under the chassis, a metal dust cover over the three-gang tuning condenser, and a box shield over the valves. The final appearance is then of boxes fixed together. This airtight shielding in practice assists stability. The cabinet should likewise be as airtight as possible.

The unit can now be connected up to the i.f. receiver via a shielded cable and should perform like any simple well-built super, that is without birdies or whistles. As an aside it is wise to connect the grid of the 6AK5 to the coil via a 100 ohm grid stopper as the 6AK5 needs little encouragement to take off. This can be done in the actual construction. It is not necessary to use a stabilised power pack. The writer has a converter built on lines of the above and although the power supply is unstabilised the frequency drift from switching on cold to five hours later is within the audio passband anywhere in the range 47-103 Mc. and with speech being received.

It would be as well to clear the point levelled at tuned converters that they are too prone to deliver a note not T8. If the converter is built as outlined, it will give a T9 note. If it does not, the fault is generally in the receiver used as i.f. channel. It is suggested in cases where a T9 note is not obtained that another receiver be tried as i.f. or better still, several. It will be found invariably, assuming the converter is soundly made, that it is possible to find one receiver which will give a T9 note. As to why this happens is obscure, but the passband of the i.f. seems to have some effect. The writer gets a T9 note with the receiver used as i.f., but by

changing to another receiver the note drops to T7 or 8. The i.f. passband of the first receiver is slightly wider than that of the second.

It will not be out of place to mention here crystal controlled converters. These are held up as the acme for the Amateur. The writer does not agree. The crystal controlled converter is a valuable device, but for the home station of the Amateur it is completely unsuited. This may sound dogmatic, but a few reflections on the matter may clarify things. In the first place such converters are invariably broad-band, they cannot be otherwise, and being broad-band they are noisy. Noise can be reduced most effectively by reducing the bandwidth, to obtain this broad-band and keep it constant, it is usually necessary to stagger tune the various circuits and this reduces the gain. The oscillator is stable, naturally, being a crystal, but that crystal is oscillating at a lower, much lower, frequency than is needed for mixing and mixing is accomplished by using one of the many harmonics produced.

Now these harmonics, that is the unwanted ones, get into the front end of the converter and it is almost invariably the case that the receiver tuned as i.f. has birdies. This is not to be wondered at as on, say, 144 Mc., the receiver must tune 4 Mc. of its range. To eliminate this, recourse is had of picking the right crystal. This is not easy and even when a frequency has been chosen, it is usual for some birdie to appear. These arise, if not from the harmonic direct, as a product of the oscillator harmonic from the i.f. re-

ceiver and the crystal oscillator. It is quite clear that such a device is hardly satisfactory.

In addition to these worries there is the leak-through of signals at the tuning frequencies of the receiver used as i.f. Very few receivers are free from signals of this nature even when connected through shielded cable to the converter i.f. coil. The writer has not encountered many which possessed any degree of sensitivity; they were invariably lacking in gain. In many years of handling receivers the writer has only encountered one receiver of a high degree of sensitivity which brought in nothing when no aerial was connected.

There is no excuse for crystal controlled converters at the home station. These remarks regarding birdies apply especially to v.h.f. crystal converters. It is just as easy to make a fully tuned converter and far more satisfactory.

This idea of converters can be extended to wide limits if a little common sense is applied. Let us take to construction of an Amateur communications super with a high degree of selectivity. One may have an all-range receiver which has an i.f. of say, 1,600 Kc. The selectivity is not now good enough. To improve things here the valves in the back end can be removed from the second detector onwards leaving power available for other things. The i.f. is now tapped at the plate of the second or third i.f. stage by twisting a one-turn loop round a plate lead. This one-turn loop feeds into a Command receiver covering the range 1.5-3 Mc. This has an i.f. of 750 Kc. The i.f. of this receiver is similarly tapped and fed

into, say, a mantel radio, also with the valves in the back end removed. This is then fed into a BC453. Such a combination is easy of construction and providing the coupling in the BC453 is adjusted to maximum, by removing the knurled caps on the i.f. coils and pulling the thin square plastic bar made visible gently upwards to its maximum travel, is very selective.

If even greater selectivity is needed the i.f. coils of the mantel receiver can be removed, sawn in half and replaced in the can with the coils at right angles. This gives a very sharp skirt.

No trouble should be experienced on the i.f. Amateur bands with birdies from such an outfit. Many of the fixed tuned channels can be parked under the bench and such things as noise limiter, etc., placed in spots where maximum efficiency can be obtained. This means, of course, plenty of grid volts. Such a receiver may seem impossible, but there is one such working in Sydney. As no part of it has to run "flat out" it is very quiet in practice and its selectivity is beyond reproach. It can be stated with confidence that it will hold its own with any modern American communications receiver.

One concluding point about these double, triple and quadruple conversion receivers is to make sure the different i.f.s. used are not too closely related harmonically and also bear fully in mind the earlier remarks about the amplitude of the oscillator volts in the various frequency changers. It assumes great importance in multiple conversion.

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REMEMBRANCE DAY CONTEST, 1957

The Federal Contest Committee of the Wireless Institute of Australia wished all Australian Amateurs and Short Wave Listeners to participate in the annual contest which is held to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August, the date on which hostilities ceased in the S.W.P.A.

A handsome Perpetual Trophy is awarded annually for competition between States, inscribed with the names of those who made the supreme sacrifice, and so perpetuating their memory throughout Amateur Radio in Australia. The name of the winning Division each year is also inscribed on the Trophy. In addition the winning Division will receive a suitably inscribed framed photograph of the Trophy.

Objects: Amateurs in each Call Area (this includes those in Australian Mandated Territories and Australian Antarctica) will endeavour to contact Amateurs in all other Call Areas (VK1 and VK2 are considered to be one Call Area).

Date of Contest: 17th-18th August, 1957.

Duration: From 1800 hours E.A.S.T. on 17th August, 1957, to 1759 hours E.A.S.T. on 18th August, 1957. A period of 15 minutes silence will be observed by all stations on 17th August immediately prior to the start of the contest when an appropriate broadcast will be made from VK3WIA and relayed by the Divisional Stations.

RULES

1. There shall be four main sections to the Contest:

- (a) Transmitting phone.
- (b) Transmitting c.w.
- (c) Transmitting open.
- (d) Receiving phone and c.w.

2. All Australian Amateurs may enter for the Contest whether their stations are fixed, portable, or mobile, but only members of the W.I.A. are eligible for awards.

3. All Amateur frequency bands may be used, but no cross-band operating is permitted.

4. Amateurs may enter for one of the above sections listed in Rule 1. An "open" log will be one containing both phone and c.w. contacts.

5. Only one contact per station per band is allowed and arranging schedules for contacts on other bands is not permitted.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

EXAMPLE OF TRANSMITTING LOG

Date/ Time E.A.S.T.	Band	Emission	Call Sign	EST/NR Sent	RST/NR Revd.	V.H.F. Bonus	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet can be used to follow the above form.

Contestants operating stations other than their own shall be referred to, for the purposes of these rules, as "substitute operators."

Their operating procedure will be as follows:

Phone contacts: Substitute operators will call "CJ Remembrance Day" followed by the call sign of the station they are operating, and the word "log" followed by their own call sign.

C.W. contacts: Substitute operators will call "CQ RD de" followed by the group call sign comprising the call sign of the station they are operating, an oblique stroke, and their own call sign.

Contestants receiving signals from a substitute operator will qualify for points by recording the call of the substitute operator only.

7. Entrants must operate within the terms of their licences.

8. Cyphers: Before points may be claimed for a contact serial numbers must be exchanged and acknowledged. The serial number of 5 or 8 figures will be made up of the RS (telephone) or RST (c.w.) reports plus three figures which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then for the second contact the number must be 054, for the third 055 and so on. If any contestant reaches 999, he will start again with 001.

9. Entries: Entries must be set out as shown in the example, using only one side of the paper. Entries must be postmarked not later than 7th September, 1957, and addressed to the Federal Contest Committee, W.I.A., Box 1234K, G.P.O., Adelaide, South Aus.

10. Scoring: Scoring will be based on the table shown.

SCORING TABLE

To

From	VK0	VK1	VK2	VK3	VK4	VK5	VK6	VK7	VK8
VK0 ..	-	6	6	6	6	6	6	6	6
VK1-2 ..	6	-	1	2	3	5	4	6	
VK3 ..	6	1	-	3	2	5	4	6	
VK4 ..	6	1	2	-	3	6	5	4	
VK5 ..	6	2	1	3	-	5	4	6	
VK6 ..	6	1	2	4	3	-	5	6	
VK7 ..	6	2	1	4	3	5	-	6	
VK8 ..	6	1	2	3	4	5	6	-	

Note.—Read table from left to right for points for the various call areas.

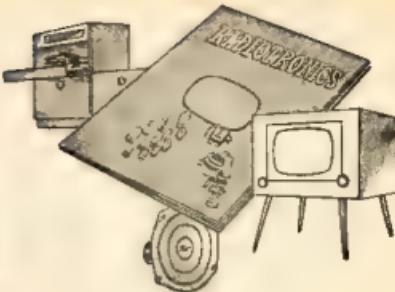
11. Logs: All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

EXAMPLE OF RECEIVING LOG

Date/ Time E.A.S.T.	Band	Call Sign Heard	EST/NR Sent	Station Called	V.H.F. Bonus	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet can be used to follow the above form.

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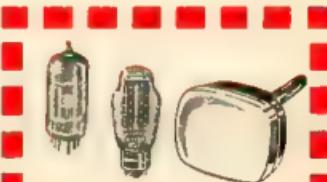
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FIFTY-SIX MEGACYCLES AND ABOVE

L.A.O.C.P. OPERATORS ON 56-60 Mc.

Federal Executive was pleased to announce towards the end of April that following representations to the Amateur Administration, holders of the Amateur Operators Limited Certificate of Proficiency would be permitted to conduct radio telephony experiments on the 56-60 Mc. band in addition to operation on authorised frequencies of 144 Mc and above.

It is believed that the release of this band for L.A.O.C.P. operators will be most advantageous in regard to the collecting of data in a portion of the spectrum so promising with possibilities.

56 AND 144 Mc. TRANSMISSIONS FROM ANTARCTICA

Information has been received that VK6AA, of Macquarie Island, is making test transmissions on 56.64 Mc. each night at 2000 to 2030 hours E.S.T. Transmissions are automatically keyed c.w.

He is also preparing to make regular transmissions of a similar nature on the 2 mhz band and hopes, within a few weeks, to be transmitting every night at 2100 to 2130 hours E.S.T. on a frequency of 144.36 Mc.

VK6AA indicates that he is not able to maintain regular listening watches, but will do so if his signals are received here. Please forward any reports of reception of these transmissions

to the Editor "Amateur Radio." Also keep a watch for the Macquarie Island boys on the 20 mhz band.

TRANS-PACIFIC 56 Mc. TRANSMISSIONS

C.w. transmissions take place each Sunday morning from 50.6 to 50.1 Mc. by American stations. There are often up to six stations operating the main stations being K8NNQ and K6EDX. The times of transmission are:

0605 to 0810	E.A.S.T.	1005 to 1010	E.A.S.T.
0615 to 0810	"	1015 to 1020	"
0625 to 0810	"	1105 to 1110	"
0635 to 0810	"	1115 to 1120	"

The Americans look for phone replies on 16 metres c.w.:

0610 to 0810	E.A.S.T.	1015 to 1020	E.A.S.T.
0615 to 0810	"	1045 to 1050	"
0625 to 0810	"	1105 to 1110	"
0635 to 0810	"	1115 to 1120	"

The following Hawaiian stations will also be operating daily from or at 1300 E.A.S.T., i.e. 0300 G.M.T., in the first 150 Kc. of the 56 Mc. band: KH6CCZ, KH6MNS, KH6PP, and KH6BRS. KH6CCZ will call CQ Australia on 3 metres.

NEW SOUTH WALES

At the May meeting of the V.H.F. and T.V. Group held at the Green Hill Technical College a most interesting and instructive lecture on "Modulation" was very well presented by Mr. A. Goldthorpe who held the audience with very close attention and his advice, particularly on the question of theory, were extremely appreciated by all present. It is hoped that at some future date Mr. Goldthorpe will again find it convenient to place another knot in his tie to remind him to look in his coat pocket. Mr. Goldthorpe will be a regular at our meeting nights, and even along and feature to us again. John ZANF, on behalf of the Group, moved a vote of thanks and appreciation to the lecturer for his splendid effort which was unanimously carried in the usual way.

Results of the 2 mhz Field Day were given to the meeting by Horrie HILL, who said that

40 stations had taken part and that he had received 11 logs of which 7 were portable, 1 country, and 3 home. The total points for the portable section was John ZANF with 237 points, followed by 2HIO 249 points, 2ZBD 201 points. Stations 2DR, 2WH and 2VU were first, second and third respectively, for the country section. The home station with the most logs was Phil ZER, placgette being second 2ZAL and third 2AT. As there were only two logs returned for the D/F Field Day, the contest manager 2HL, declared the event as "no contest."

President Peter ZAPQ told of his visit to VK3 and said he was made very welcome. He gave VK3s an outline of the way the VK3s conduct their Group and how they run their contests. During his visit he worked several VK3s with the Walkie-Talkie 2 mhz gear which he took with him.

The Canberra V.H.F. Group gave a very warm welcome to VK3s 2CR, 2VU, and 2AFM during the Easter holidays. Vice 2VU gave a lecture to the group on the construction and adjustment of a star loaded converter and a dip oscillator and exhibited his own equipment for inspection. Eric 2AFM demonstrated his own mobile equipment and displayed and operated a mobile transmitter complete with halo and some oscillators which was lent on the occasion by Bob ZOA. Ken 1AII presented an excellent programme and Stan 1AAB is the only VK1 at present active on 2 mhz. The Canberra V.H.F. Group there are several, are very keen to get going and most will have beams directed on Sydney.

The progressive hide and seek fox-hunt held on 5th May resulted in two wins for Bob ZOA, two 2sts by Jim 2ZBD, and one 1st by John ZANF. After the competition, Jim introduced the group winners and Phil ZER. Eric 2AFM, to his good XYL who provided an excellent afternoon. ZOA's daughter navigator Rosemary, was also present. After an inspection of Jim's shack the parties left for dinner after a very enjoyable day of excellent weather.

A Surprise Scramble, held on 28th April, was won by Phil ZER, followed by John 2ANF and Ken 1AKL, third place being held by Bob ZOA and John 2ZAV. 2VU will be fox-hunt on night of 1st May and a Treasure Hunt will be down for 2nd June. 2ZBD will be the fox.

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VICTORIA

From this issue of the magazine, David Rankin (Z2AQ) is the new scribe for the v.h.f. notes. Due to pressure of other work, Phil Moncur has had to resign, hence the change. For the past few years Phil has been doing terrific job, writing various notes for the magazine, and I only hope that I can do as good a job as she did. I'll do my best but I need you the reader, to help me with suitable information. No information, no notes.

Mc Me.—The allocation of this band to the Z boys caught us off guard and so the activity on the band hasn't increased yet. It's soon with the thought of the talk going on on 144 Mc. and 288 Mc. is any indication. To my knowledge the first Z calls active on the band were Ian Z3HJ and Jack Z2DG. They worked Lance Z3HL at midnight on May 1 and Eric Z3KZ at 11:30 p.m. on May 2. Since then we have had them and a few more, all with 144 Mc. overtones and ran about 3 watts input to a QVM4/7. The rx was the main station set with the normal coils replaced with 50 Mc. ones. Well there's keenness for you and fine work, Ian and Jack. QFM 4/7 is a good rig and the Z boys are very active and developed birdsies and are quite useless. Anyway, the hastily erected 3 el. yagi hasn't fallen down—yet.

444 Mc.—As mentioned over ZW1 recently, the Ballarat gang are grouping themselves together in the spectrum 146.90-148.30 Mc. The idea is to keep the Ballarat signals well away from most of the Melbourne signals. All the active amateur stations are close together and mutual interference can become very severe. This change over will have taken place by the time these notes appear in print and so in future look on the following frequencies for the Ballarat gang (ZEF please note):

148.00 Mc	145.15 Mc	ZGM
148.03	- ZCCT	148.14
148.04	- ZBZS	148.15
148.05	- ZCCT	- SPO
148.06	- ZCCT	-
148.08	- ZAHN/MW	148.18
148.10	- ZEL	148.20

* Reserved for new calls.

The Melbourne gang are asked to co-operate by keeping the above frequencies clear and also when working on the band to tune up to the new frequencies and give the Ballarat boys some contacts.

From Ian ZALM comes the information that there will be a meteor scatter peak in August. Ian is quite interested in meteor scatter propagation and would like to hear from anybody, amateur or VHF, who would be interested, amateur or commercial, in the possibility of contacting Ian would be either on the air or by mail.

998 Mc.—Bert ZAAF has been heard back on the band. Welcome back Bert, hope to work you soon and get a report from someone with a xtal locked converter. There are a number of a.w.l.'s on this band now and one of them, John Jenkins, of Brighton, has for the last few months been trying his best to contact Ian would be either on the air or by mail.

998 Mc.—Bert ZAAF has been heard back on the band. Welcome back Bert, hope to work you soon and get a report from someone with a xtal locked converter. There are a number of a.w.l.'s on this band now and one of them, John Jenkins, of Brighton, has for the last few months been trying his best to contact Ian would be either on the air or by mail.

Geoff ZAUK has moved to a new QTH at Eumundiwick, but the change seems to have had an adverse effect on the radio gear. He cannot work anybody on 878 or 288 Mc. and has had to come down to 144 Mc. However, Geoff promises that this state of affairs won't last.

998 Mc.—Mac Z2G and Bert ZAAF are known to have been active on this band lately. Bert Z2DI has a rush-box going on the band but complaints of the complete absence of signals. He is trying to persuade Les Z2CN to get some gear together and so this band may be used soon although proposed 96 Mc. operation may usurp any good intentions had for 96 Mc. band.

V.H.F. Meeting.—The April meeting was the annual city-country get-together and judging from the turn up this event seems quite popular.

Of the 41 present about 10 were from the country, the balance of whom had come down from Ballarat. Bill ZAMH came down from Bendigo. However the best DX was Perc ZAPF from some place called Sydney—he believes it is some 500 miles N.W. of Melbourne.

Some equipment on display was described by the owners. Graeme Z2AA had a capacity measuring bridge. Even ZAAP has a home-brew t.v. set with a 17 inch screen, Ian ZALM a home-made 100-watt 2 m. rig, and Bert ZAAF a home-made 804's and Perc ZAPF a nice 2 m. rig operated entirely from dry batteries. It uses a pair of J35s in the tx and to transmit the whole device only sucks 0.3W. from the batteries—some QRP. A 6 inch t.v. set by Ray Price was also on display.

Weather conditions were cool for the Field Day and fewer stations than usual were out. However some good scores were made by the portables. Results: 1st, Z2CN, portable Mt. Buningyong, 2172 points, including 278 bonus points for first and second longest distances on 144 Mc. (Z2AM and Z2CG); 2nd, Z2AL, portable Mt. Macclesfield, 1185 points, including 214 bonus pts. for first, second and third longest distances on 288 Mc. and for third longest distance on 144 Mc. (Z2E, Z2AQ, Z2AF, Z2LE, Z2EJ); 3rd, Z2AD, portable Mt. Donna Buang, 1350 points.

The No. 2 Fox Hunt for 1967 proved to be most entertaining for all participants. Even the fox, Tom ZAOG, found the antics of the hounds quite amusing, especially when the fox reached the location which was in a wooded parkland close to the Maribyrnong River. Ray Price passed the fox car at high speed and failed to notice that it was only 10 ft. to starboard. The route traversed North Melbourne, Footscray, Maribyrnong, Footscray, North Melbourne, Footscray. At one stage ZTR thought the fox car was about to enter his shack door. The final location was at George Z2EH's where he and his XYZ, Keith, had made all seventeen participants welcome. A barbecue with many visitors, which included Leo, Bruce (Gossoms), and Stuart Z2DF (Newcastles), the results were announced as follows: 1st, Ray Price; 2nd, Roy Ary; 3rd, Len ZLN. A very convincing win, Ray, congratulations.

Don't forget the next hunt chaps. Our old friend Eric ZADU, is to be the fox and judging from his efforts in hiding the 28 m. tx in the past we can be sure that he will pull something good out of the hat.

QUEENSLAND

Lou Hill and Jack ZJO picked the sub-tropical slopes of Boggy Creek, as aptly named, to set up the gear for the April 2 m. D.F. Hunt. What with the mosquitoes and several inquisitive small boys, the gear was set up in rather a haphazard and not perfect as well as it should have been done. As usual the foxes were held that next month's hunt would again be by courtesy of Lou and Jack, so it was with great relief that they took time off from killing mosquitoes and chasing small boys to pat each other on the back. The sound of a car coming from a car came drifting up the road. John 4FP with second op Alan 4ZAE was the arrival—time 30 mins. A hasty retreat was made back to 4J's for supper.

With the reported prospective rise in the m.u.f. hopes of working on 144 Mc. across the Iron Curtain between VR3 and VR4 have once more risen. Don 4ZAP at Warwick is very active and would welcome any other Northern N.S.W. stations. He expects to have a tower up in the near future which will raise his 16 el. phased array quite a bit higher. Our rare DX station, Arch 4CB, at Maryborough, has been very active and so far has to take his phased array down from the tower to make room for the massive t.v. aerial. The 4 el. yagi at present doing duty on 3 m. maz makes the going very tough.

Several major operations in shack construction are under way. Mick 4ZAA, at Sandgate is at last moving from his temporary shack in his bedroom, down to his new quarters built in the garage. Alan 4ZAL is building in a console type of arrangement with a lot of gadgets to make operating easier and easier. Plans everywhere are for bigger and better equipment, particularly now that the 8 m. rx has been made available to the limited license holders. Radio gear, as far as the author is concerned, however, must be made with due caution as suggestions have been made to record such statements. Thus when progress on a stated project is lagging, such as Lionel 4ZAS and Jim 4OB, it is not unusual for only 10 months and some 200's we hear about some. The threat of re-play should create great activity.

The May Tx Hunt proved that John 4FP and Alan 4ZAR are just as good at hiding the gear as finding it. The location was a honey, only slightly over half a mile upstream from the favoured starting point, but across the river, which meant a long trip around to get at it. On the other side of the river the boys had snuggled down close to the river bank, and the signal from the back of the beam, reflected and shielded by the large tree roots of the Navy Store made the signal appear to come from the water, which it did. However, Jim 4OB and Bill ZALZ found the gear in 25 minutes, which was a good effort. Second crew in were Cross ZAAW with Jim 4FP. Supper at 4FP's shack concluded another enjoyable night—4J.

SOUTH AUSTRALIA

Now that the 56-58 Mc band has been released to the Z boys, those of us who have 26 Mc. and 28 Mc. have not had much to do because of "no sign," can now expect a reply to a "CQ 5 m. sign." 3" is now mostly answered.

Neil Z2AW and John Z2BA have both done a sterling job for the Division on the 3 m. link for the Exhibition and we hope on the 2 m. link for the same. I am sure they have set aside a rx for 4 hours at end and can appreciate what it means. The running around those two did to set gear up and make best use of the site available and so on, was no small task.

There has been further work by those enthusiasts, Keith SMT, Col SRO and Bill Z2AK, from Mount Lofty, where they spent two nights in the last month, with some success into VK3 on 2 m. just how much and who I cannot report for, but when I get time I will do. It is in moth ball for at least a month due to house renovations. But they are still on the air and getting some results for their efforts.

Col SRO has a yagi 80 ft. high on 2 m. rx and it put his signal up among the tops at 35 miles, demonstrating again that clear get-away is essential for distance (f.t.) v.h.f. Keith SMT is in the air with his 2 m. rx more recently and I am sure that he is doing well. I am sure that Keith please. George Z2B continues to do fancy tricks, for instance heard him and Reg SQR with Reg transmitting on c.w. 30. George receiving on 30 and relaying on 3 to Reg with a 100 ft. mast. I am sure that Reg is working well too. Presently George is trying out something for a v.h.f. link, but apparently it did not get used for the Exhibition for heard nothing like that being used there. George has re-vamped his tx too of late and now puts his in an f.b. sig here.

Neil Z2AW spent an evening with Claude Z2CH and the two of them which were down for greater attempts to break through to Adelaide from Mt. Gambier. Claude has completed his new final with an SSB. Wally SFB is becoming enthusiastic on 2. David Z2AM has 160w. in the final and Leo Z2AG also active and with a 100 ft. mast and a good green team to fire to the North and surely break through some time. Claude is using a new long yagi which he prides very much, that may help bridge the gap.

Get on to 88 Mc. fellows, and make the appointments, then who knows, for if you can work VK5s and VK7s on suitable occasions, surely this far is not impossible—S2F.

WESTERN AUSTRALIA

Owing to a misunderstanding VK6 notes have been missing from "A.R."—this will be remedied from now on. Phil Z2AW has worked Perth from Northam (88 miles) using a pair of CV6s in the final, but alas, Phil has now moved east, so we have lost a good country station.

Fox hunts have been a monthly feature of V.H.F. Group activities. The last one faking was SBO. Solo's idea was to pick a spot that would allow all cars to find the tx. Seven out of nine teams turned up and the fox was set. Z2AV was first home for a change, but what did we find—the tx hidden near the powerhouse and dump, along side the Swan River and feeding into a revolving beam, no wonder the tx was hard to find. Supper was held at Rolo's QTH, where the author was invited to come to dinner with another idea in order to pick the winner. Points were allotted for order of finding tx, passengers carried, distance travelled and value in rx's etc. some being plus and minus in minu. rx's etc. was the outright winner, mainly because of his 2 wave super-regen, as against 10 valve rx's.

Tests by SBO, Z2AV and SBE with SWG in Albany over 350 miles, since early January, have been carried out every morning and sigs have been sent out only on two occasions. Jack SGB has been active again on two after a long absence.

A V.H.F. Group meeting was held at Roilo's (SBO) QTH on Saturday evening, 13th April. The attendance was good considering a few members have contracted YL trouble—but must be hard to get leave passes, etc. Those present enjoyed a nice evening after all the Group banquets and the usual tx. Supper followed and all members departed for home after a very late but enjoyable night.

S2AF, the Pearce Air Force Club station, has had the breas with quite a nice signal from a SSB and has worked S2B, Z2AV and SBE. Cross Z2AA at Wagga came to life on 27th April at 1000 hrs to work Reg S2B and Don Z2E, 5W over the 150 miles path.

In order to encourage activity on 288 Mc. it has been decided to hold a fox hunt on that frequency to get cracking chaps on these receivers—S2AF.

BOOK REVIEW

THE RADIO AMATEUR'S HANDBOOK

The 1957 issue of the Radio Amateur's Handbook has just come to hand. For many years now this book has been recognised as the standard handbook of Amateur practice. This book follows the usual A.R.R.L. practice of yearly revision to keep it to the forefront of Amateur practice.

Numerous changes have been made, but one of the most striking is the change of layout of tube data. The receiving tube section has been revised to enable quicker reference to operating data. The transmitting tube section has also been revised, many of the older types having been eliminated. All other sections have been enlarged and revised

so that equipment described is the most modern and efficient of its type. The most comprehensive catalogue section again provides most interesting reading.

All in all, this is a book we can thoroughly recommend to all interested in radio and electronics. Price in Australia—44/3.

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WATCH FOR 1957 ISSUE



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TAHITI-NUI CERTIFICATE

The Tahiti-Nui is really the Kou Tiki in reverse in so far as the expedition is on a raft and intends sailing from Tahiti to Chile (following the southern route) and then back to Tahiti by the northern route. The raft is constructed of bamboo and is approximately 50 feet by 18 feet in size. Among the crew is FOSAP who will operate FO4AP/MM during the trip.

Special certificates in several colours have been prepared to enable those interested to follow the progress of the raft to place positions where QSOs were made and where the station was heard. These certificates will also serve as confirmation of QSO or report as when the raft reaches South America. Holders will be advised by world-wide advertising, to post these certificates to the appropriate radio stations, etc., of the raft crew will be appreciated.

To the Amateur making the most QSOs (allowing one per day only) there will be presented an autographed copy of the book to be written by Eric de Blignier, the leader of the expedition. Each certificate issued will be numbered according to the country of origin. These may be obtained from Jack White, ZL2GX, at a cost of ten shillings each (N.Z.).

Operating schedule of FO4AP/MM—
1800-1900 G.M.T., 7070, 7040 and 7010 Kc., c.w.
0150-0200 G.M.T., 14165 and 21042 Kc., c.w.
0630-0715 G.M.T., 14163 and 21042 Kc., c.w.

Other frequencies 7070, 7030, 14333, 14043, and 21182 Kc. Power: 1½ watts. Operator Michel Brun.

The route already traversed by the raft has already confounded some of the critics by drifting from west to east on the west wind drift.

These certificates are not restricted to Amateurs and any of the public that any interested persons may procure them. Already some have gone out to schools who are using them as a basis for a project.

—Jack White, ZL2GX.

ERRATA

The author has advised of a mistake which appeared in his article, "Type 3 Mk. II. Receiver," p. 8 of last issue. The condenser C16 is wired to tag 3, not to tag 4 as stated. The condenser wired to tag 4 is an 0.0001 μ F by-pass. This oversight was pointed out by Alan VK3AMD, who said that the Ducon miniature potentiometer used for the volume control will fit below the chassis deck to the right of the phone tags. In the author's set a hole had already been drilled to install a stand-by switch in the h.t. plus lead.

In the paragraph headed "Reports of Long-Distance T.V. Reception Requested" on page 12 of the May issue, the address to which reports are requested is incorrect. Correct address is as follows: Mr. Norman Burton, 130 The River Road, Revesby, N.S.W.



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FEDERAL, QSL, and



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Awards Manager: A. G. Gwynnion, VK3XU,
8 York Street, Bonbeach, Vic.

NEW SOUTH WALES

President: Jim Corbin, VK2YVC.

Correspondence Secretary: H. King, VK3ASU,
18 St Pauls Road, Balgowlah, N.S.W.

Meeting Night: Fourth Friday of each month at
Rockdale RSL, 100-102 St Georges St, Sydney.

QSL Bureau: J. H. Corbin, VK2YVC, Box 1734,
G.P.O., Sydney. Inwards and Outwards.

Zone Correspondents: North Coast and Tablelands—Noel Hanson, VK2ANH; Ryan Ave,
Woolstonecraft, 180 Pittwater Rd, Sydney, P.K.
2AOR, 18 Kambah Rd, Rylstone, via Adamstown; Coalfields and Lakes—H. Hawkins, VK2YL,
8 Conifer Ave, Cessnock; Western W.
Sult, VK1JWV, "Cambewarra"; Forbes—South
Coast—John E. C. V. WIDDECOMBE, 300
St. Warrington, 64A Western St, W. Sult.
VK2AJQ, Waller St, Coopman; Tamworth—
F. W. Fowler, VK2AFF, 4 Thompson Cres,
Tamworth.

FEDERAL

SUCCESSFUL AMATEUR CANDIDATES

The following is a list of candidates who
were successful at the examination for the
Amateur Operator's Certificate and Amateur
Operator's Limited Certificate held on 8th
January, 1957.

New South Wales

S. Fairburn, 9 Lemmings Pde., Newcastle.
G. Pet, 2 Farnsworth St., Thornton.
L. W. Brough, C.O., Telephone Exchange,
Macksville.

M. S. Lamont, 189 Hunter St., Glen Innes.
E. J. McLean, 120 Pittwater Rd., Lithgow.

B. Dooland, 419 Smith St., Albury.
D. K. Sides, Monoval, Multimia.

K. L. King, Mornington Falls Rd., Wentworth
Falls.

J. G. Virtue, Dangar St., Phillips, 6W.
W. O. HHL, 185 Morgan St., Peterham.

R. B. Charley, 136 Aitchison St., Crows Nest.
J. F. Daldish, 14 Barbary St., Fairfield.

M. T. Morell, "Arulan", Nyngan.
Victoria

P. J. Dettmann, 45 Hutton St., Kyneton.
B. S. Baulch, "Murrabe", Hawksdale.

M. F. Spiller, 4 Maling Rd., Canterbury.
W. D. Gordon, 107 Victoria St., Murrumburrah.

J. R. Ely, 15 Sharp St., Northcote.
G. W. Bay, 207 Beulah Rd., Caulfield.

South Australia

A. M. Niles, 2 Baltic St., West Bundaberg.
B. Varnes, 3 Linton Rd., Bundaberg.

M. T. K. Power, 101 Wils Regt., Cabarlah
Barracks, Cabarlah.

C. T. Amore, 45 Minimine St., Stafford.
R. A. Collins, 150 Ashgrove Ave., Ashgrove.

D. R. Morgan, Park Rd., Yeronga.

Western Australia

D. R. Hopper, 54 Railway Terrace, Mt. Lawley
G. R. K. Webster, 111 Wellington St., Mosman
Park.

L. S. Potts, 21 Alvan St., Mt. Lawley.

The above list does not include candidates who,
although they failed in the examination
for a full certificate, qualified in the subjects
for a Limited certificate. Such candidates are
issued with a Limited certificate on application.

VICTORIA

President: F. G. Hall, VK3YVZ.

Secretary: R. L. Lomax, VK3LJL.
Administrative: Secretary, Mrs. May, C.O.R.
House, 151 Queen St., Melbourne.

Meeting Night: First Wednesday of each month
at the Radio School, Royal Melbourne Technical
College.

Divisional Sub-Editor: V. M. Jones, VK3YVZ,
7 New St., Surrey Hills, E.I.B.

QSL Bureau: Inwards and Outwards—W.I.A.,
101 Queen St., Melbourne, C.I., Vic.

Zone Correspondents: Western—W. J. Kinsella,
VK3KJZ, 105 Maitland, Liverpool, South Western—
W. Winsor, VK3AWZ, 70 Skene St., New-
town, Far North Western—M. Folla, VK3GZ,
101 Lemon Ave., Mildura, Midland—R. Jon-
son, 102 Liverpool St., Castlemaine,
North Eastern—L. Elsman, VK3AJK, 70 Orr
St., Shepparton, Eastern—J. Spark, VK3AJK,
20 Marshall Ave., Moe.

QUEENSLAND

President: Frank Bond, VK4ZM.

Secretary: W. J. Hafer, VK4PFR, Box 683J,
G.P.O., Brisbane.

Meeting Night: Fourth Friday in each month at
the State Service Union Rooms, Elizabeth
Street, Brisbane.

Divisional Sub-Editor: A. Simpson, VK4ZAE,
C.R. Baden Powell and White Sts., Everton
Park.

QSL Bureau: Inwards—J. Files, VK4JZ, Vanda
St., Buranda; Outwards—Miss Clair O'Brien,
30 Jardin St., St. Stephen.

Zone Correspondents: Northern—B. J.
Gianopoulos, VK4BG, 50 North St., Maryborough,
Townsville; R. K. Wilson, VK4RW, Hogan
St., Stuart, Townsville.

NEW SOUTH WALES

1967 URUNGA CONVENTION

The above Convention is now over and no
doubt many have heard of the grand time had
by those who attended. A few of our regulars
were absent due to other commitments, but
this was offset by the appearance of quite a
few new faces. For the third year in succession
Dion 2A1Q made the journey to be at
Urunga, so it seems to me that our Convention
has "something."

The total attendance, in addition to many
harmonicas, was 34 and consisted of 23 Amateurs
and 11 ladies. The ladies were a varied collection.
Just look over the list of those who were
there and see how many of the fellows you've
often wanted to meet were present. Perhaps
next year you could tee up a "shed" to meet
you're own Urunga and find out whether
they are big or little birds.

The fellows you missed meeting were: Sid
2A2PS and family, John 4P7, Jas 4P8, Osie
4TIN, Paul 4V8, Fred Reid (Assoc.), Brian
Clarke (Assoc.), Dave YATES, Ross 1PM, Alan
1P7 and family, Ray James (Assoc.), Bob
1P7 and family, John 1P7, 1P8, 1P9 and 1P10
and Mrs. Cooper, Bill 2A9Y and family, Major
2RU and Mrs. Collett, Terry 2J3, George 4GG,
Jack 2ADT and family, Chas 2ARY and Kevin,
Joe Ponstremmier, Ken 2P7, Bill 2AWG, Rod
4CU and family, John 2A9Y and 2A9Z, Noel
2A1HH and family, Norm 2DAA (Assoc.),
Norm Moody (Assoc.) and Mrs. Moody, Ed
Tooby, Creiff 2XO and family, Hart 2JC, Jack
2KJ, Harry 2P7, and 2P8, and Mrs. Miller,
Dion 2A1Q and Don 2A1P, Geoff 2SR and family,
Jack 2ADN and Mrs. Gerard, Len 2A1H,
Snow McAuley (Assoc.).

The competition programme was enlarged
by two contests to cater for v.h.f. enthusiasts.
An additional hidden 144 Mc. Tx hunt and a
fox hunt were staged and proved popular.

To really appreciate the enjoyment and en-
tertainment provided by the various
activities, you should have been there, but ask
any who were there about Norm Moody's epic
drive across country where no car had ever
been before to find the hidden 144 Mc. Tx hunt.
They were well worth the effort, I'm sure.

Ask them about Creiff's (2XO) colour
transparencies complete with taped
commentary and background music, or about
the delight of swapping experiences over a
bowl of delicious juice.

There were three major competitions, all
won by Noel 2AHH—for the second time in
succession!

Competition results were as follows:

2. Mc. 2A1Q 144 Mc. Tx Hunt: 1st, 2AHH;
2nd, Norm Moody (Assoc.); 3rd, 4P7.

SOUTH AUSTRALIA

President: W. J. Bulling, VK5RZK, Box 1234K,
G.P.O., Adelaide. Telephone: UX 2621.

Meeting Night: Second Tuesday of each month
at 17 Weymouth St., Adelaide.

Divisional Sub-Editor: E. C. E. C. Daw, VK5EF, P.O.
Box 44, Gawler, S.A.

QSL Bureau: G. Luxton, VK5RZK, 27 Belair Rd.,
West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: E. J. Rumble, VK5RUE, Box 1234K,
G.P.O., Perth, W.A. 61002.

Meeting Night: Third Wednesday of month at
Perth Tech College Annex, Mounts Bay Rd.

Divisional Sub-Editor: E. J. H. Cowles, VK5EJZ,
P.O. Box 11, Bencubbin, W.A. 61002.

QSL Bureau: J. J. Jones, VK5RUE, Box F312,
G.P.O., Perth, W.A. (Inwards and Outwards).

TAHITI

President: F. J. Evans, VK7KTC.

Secretary: M. Hurlburt, VK7TMH, Box 371B,
G.P.O., Tahiti.

Meeting Night: First Wednesday of each month at
W.L.A. Clubhouse, 147 Liverpool St., Hobart.

Divisional Sub-Editor: W. W. Watson, VK7TY,
58 Brooke Ave., Moonah, Tasmania.

QSL Bureau: K. A. Johnston, VK7TMH, 34 Tower
Rd., Hobart, Tasmania.

Zone Correspondents: Northern—K. J. Bright,
VK7LX, 16 Melbourne St., Launceston; North
Western—L. S. Eddington, VK7LX, 3 Jenner
St., Wynyard.

PAPUA-NEW GUINEA

President: W. C. Goss, VK5WQ.

Secretary: G. J. Young, VK5WQZ, C.O. P. & T.
Dept., Port Moresby.

QSL Bureau: R. Lloyd, VK5ZAL, C.O. Com-
monwealth Dept. Works, Port Moresby.

Gerry Challender Memorial Contest: 1st,
2A1H, 70 points; 2nd, 2AHH, 55 points; 3rd,
2A1Q, 54 points.

Fox Hunt: 1st, 4P7; 2nd, Fred Reid (Assoc.).
1. Mc. 1 Hidson Hunt: 1st, 2AHH, 45 minutes;
2nd, 2X7, 90 mins.

Urunga Convention: 1st, 2AHH, 37 contacts;
2nd, 2P7, 36 contacts; 3rd, 2X7, 35 contacts.

Best miles per watt: 4P7, who worked G on
10 metres using 38 watts.

Ladies' Blindfold: 144 Mc. Tx Hunt: 1st, Mrs.
Pete, P. P. F. 2A1AU; 2nd, Mrs. Bailey
2X7, 144 Mc. Tx Hunt: 1st, 4P7.

Gents' Blindfold: 144 Mc. Tx Hunt: 1st, 4P7;
2nd, Harry Miller (Assoc.).

Lucky Draw Prize—Ladies: Mrs. Rod Pike
(CYL 2A1CU).

Partners' draw: 1st, 2AHH.

Ladies' Guess the "Mystery Object": Mrs.
Noel Hanson (CYL 2AHH).

The Gerry Challender Contest and Urunga
Convention would not be possible without the
co-operation of the various radio stations and
we do thank them for the help.

No Convention, of course, can be successful
without a great deal of organising and
"management" job. Creiff and Metalick did
a magnificent job in this regard. They
threw themselves into their work and
threw over them their "Do-It" shark for
the Saturday night get-together, where
they were thrilled by Creiff's slides, views of past
Urunga Conventions by Ken 2P7, a film of
the 1st. P.T. Convention at the Beach produced
by John 4P7 and finished completely
exhausting an 809. Brian 2A1Q and
Fred Reid did a splendid job in "planting the
tx for the 144 Mc. Hunt". In the main hunt
they were superb, the road clear of their
tyre tracks, put out signs on the road and
completely camouflaged their vehicle, a job
well done. Bill 2AWG gave excellent help
along with Rod 2A2CU. Alan 2P7, whilst Assoc.
member Noel Dash did a sterling job as
Convention Secretary and Treasurer.

Due acknowledgement must be given to various
donors who enhanced our prize list. These
included Verley 2SF, United Radio Distributors,
Amalgamated Wireless A.S.L., Philips
Electrical Industries, Australian Electrical Industries
Pty. Ltd., Lumsden Electrical Industries, W.L.A.,
Urunga businessman Nev. Westcott,
Radio Television and Hobbies, and two others
who desire to remain anonymous, whilst Bill
2AWG provided a case of bananas for the
competition.

The Urunga Progress Association provided an
excellent supper following our usual Sunday
night prize-giving concert.

Now is the time to think about Urunga for
1968. This will give you a whole twelve months
in which to knock up 40 metre portable or
mobile gear, and a 3 metre "sniffer". Bill
2AWG



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Qualifications: Pass in P.M.G. Senior Technician (Radio) or equivalent; extensive VHF and HF experience.

Duties: Install and maintain regional radio communication equipment; inspect stations; supervise technical staff.

Senior Technician (Radio)

(5 positions)

£1232-£1292 p.a.

Qualifications: Pass in P.M.G. Senior Technician (Radio) examination or equivalent.

Duties: In charge zone transmitting and receiving stations (transmitters 300 W power); MF/HF, CW and radio-telephone trunk and out-station services.

Technician (Radio)

(5 positions)

£1062-£1172 p.a.

Qualifications: Pass in P.M.G. Technician (Radio) examination or equivalent; HF and VHF experience desirable.

Duties: Assist in maintenance and operation zone and out-station radio equipment.

Supervising Technician (Telecommunications) Grade II

£1442-£1472 p.a.

Qualifications: P.M.G. Senior Technician (Telecommunications) or equivalent; automatic and manual telephone experience essential; supervisory ability.

Duties: Install and maintain exchange equipment in districts; supervise staff.

GENERAL INFORMATION

SALARY: Rates quoted are actual for unmarried appointees and include allowances and adjustments. Additional Territorial allowance is paid as follows:—

	Unmarried	Married
£	£	£
Less than 5 years' service	—	125
5 years' service but less than 7	—	25
7 years' service and over	50	175

ELIGIBILITY: Adult male British subjects under 45 years.

APPOINTMENT: Permanent subject to satisfactory probationary period.

LOCATION: Appointees are required to serve anywhere in the Territory.

ACCOMMODATION: Single quarters only available. Married accommodation not available under 18 months from date of appointment.

SEPARATION ALLOWANCE: Payable at discretion of Territory Administration; designed to compensate for added expense of married appointees obliged to maintain family outside Territory.

LEAVE: Three months after each 21 months in Territory. Additional 3 months' leave after each 6 years' service and 6 months' furlough after 20 years' service.

TAXATION: Income derived by residents of Territory from sources within Territory is not at present taxable under Commonwealth legislation.

FURTHER INFORMATION: An Information Handbook on the Public Service of the Territory is available from the Department of Territories, Canberra or Sydney, or from any Commonwealth Public Service Inspector, District Employment Office or official country Post Office. Other enquiries to Department of Territories, Canberra ('Phone U 0411, Ext. 28A).

APPLICATIONS: SUBMIT on prescribed form available from offices mentioned under "Further Information".

TO: The Secretary, Department of Territories, Canberra, by 22nd June, 1957.

Senior Technician (Telecommunications)

£1232-£1292 p.a.

Qualifications: Pass P.M.G. Senior Technician (Telecommunications) examination or equivalent; automatic and manual telephone experience.

Duties: Install and maintain equipment at main exchange.

Technician (Telecommunications)

(5 positions)

£1062-£1172 p.a.

Qualifications: Pass P.M.G. Technician (Telecommunications) examination or equivalent; automatic and manual telephone experience.

Duties: Install and maintain equipment.

Senior Radio Telegraphist

£1232-£1292 p.a.

Qualifications: First Class Certificate of Proficiency (P.M.G.) or equivalent; ability to transmit and receive at 25 w.p.m. and touch type 30 w.p.m.; two years' commercial experience desirable.

Line Foreman Grade I

£1112-£1142 p.a.

Qualifications: P.M.G. Line Foreman or equivalent; cable, conduit and aerial experience; leadership qualities.

Duties: Supervision staff in field, maintenance plant and equipment.

2ACU will be the organiser so you can look forward to a really good Convention.

The Committee wishes to thank all those who attended and looks forward to seeing each one of you again in 1957.

HUNTER BRANCH

The April meeting of the Hunter Branch was held on 13th April at the University of Technology, Tighe's Hill, with Lionel SCS in the chair. Charles SARV read the minutes and after dealing with the correspondence general discussion followed on such diverse subjects as power circuits, treatment of radio noise, 20 mrx beam design, t.v. antenna and slave antennae.

It was made known that our Vice-President Stewart had been allotted the call sign of 2ZC. All members wish the health of Vandy 2SF, a speedy recovery from her illness. Roy 2RC, from the Upper Hunter, called on Ron 2ASJ and met Ron's 2nd operators, Jack Hamilton and Syd Daniels. Roy is at present building a 40 m. and 71 m. band, and is building a 50 m. and 144 m. for local boys on 40 m. Good to hear Bill 2PJ come on to work. Urunga boys: he should be on more often now that winter is coming on. Les 2RGE and Eric 2AJT passed most of Easter holidaying home.

The f.b. weather seems to have lured most of the local Hams out of doors as activity is practically nil. Harold 2ARH has set up an amateur station in his workshop, which quite a number of the lads could follow. Jim 2ANL has been doing some airborne v.h.f. but not on Ham bands. Well known? Tom 2ADZ from Griffith passed through recently and on Bill 2ZAW's call now knows George how to play transits. Eric 2PF has got his 10 mrx rig working and is now fixing up his modulator. Bob 2AQH has acquired a Harvey Wells' v.f.o., but for the present is still using the 20 m. 2ZC which has been obtained from Forster, but did not take it. Norm 2ANA, who has been in mothballs, has made a welcome re-appearance on 20 mrx to work the 2AWX net.

The annual meeting of the Hunter Branch will be held at the University of Technology, Tighe's Hill, at 8 p.m. on 14th June.

SOULY WESTERN ZONE

My spares have not given me much information this month, so here goes. Your scribe, Stan Abbey and Jack Ash, made the trip to Griffith over Easter. An enjoyable time was had by all. We visited Stewart 2PL who, with brother Evan, was engaged in the business of wristwatches. Of course, we had to sample some. We next visited Darcy at Wodonga, Roland Grivouze, who was kept busy watching the boys. Darcy is an electrician, and winding wire is scarce at Coolamon, or should I say was.

Your scribe also had a visit over Easter from Eric and Peg. The EDV's, who arrived in their new pink and black Spacemaster, very f.b. Eric made the remark that he now has to come to Coolamon to talk to 2AJO, as that shanty block is called DX on the air. We cheer up Eric, who has passed the 100 count, we will probably come back to the Old Man's band, occasionally. Have seen Alf 2WU, at Wagga, a few times lately; Alf is a very busy man. How about relaxing on the bands sometime?

Zone members will be advised of the date for the preliminary meeting at Coolamon for this year's Convention--2AJO.

COALFIELDS AND LAKES

Old timer, Ernie 2AJZ, is active quite regularly on 14 Mc. and getting his share of the good DX too: using a new rig, t.v. proofed. Major 2RH is a regular from Gospers. Ian 2AMU is re-equipping his new rig, v.f.o. proofed and will be going again before long.

The Upper Hunter boys have not been contacted, but they seem to be sending in their news and hope they continue to do so.

Harold 2ARH is still quite active, working mainly 14 and 21 Mc. where conditions have been quite good and has managed to get post-war DX up to 204 countries.

VICTORIA

The general meeting held at the Royal Melbourne Technical College on 1st May was the first to be presided over by our new President, Fred Ball 3YV. Fred was introduced at the meeting as the retiring President, Gordon Dennis 3PTP and the meeting then placed on record his appreciation of the sterling service which Gordon had rendered during his five years as President of the Division. It was a tribute to his ability and popularity that it was at his own request he relinquished the post, not ours,

and it is hoped that we have made it abundantly clear to him that the Division, and for that matter the Institute as a whole, is very appreciative of a job well done. Fred admits that he has a very high standard to live up to following Gordon, but he has already proved himself to be a worthy successor.

The lecture for the evening was given by Mr. Markham, of the Australian Broadcasting Commission, on "The Application of Television to Television Work" (OB's to the initiated). Mr. Markham is principally concerned with the production side of OB's, and has had considerable experience both here and overseas, in various projects he has been involved with, was most interesting and at the same time very enlightening, particularly if one has ever tried to visualise what goes on behind the scenes.

Mr. Markham's talk, of course, covered by field units consisting of a ray three m. and a control van, and as these units are limited in scope by the length of their connecting cables, etc. It can be seen that many units are required on the larger projects. In locating, camera and control van have first to be sited at the required position, and then a power supply, telephone circuits and microwave links to base must follow. When a number of units are covering a project, such as a polo match, one gains an example. The distances to be covered are rather great, the complexities of the over all set-up, can be quite considerable. At the present time relays are carried out by means of co-ax cable and microwave links, and where these are not available, by means of aircraft equipped with receiving and transmitting gear. As techniques develop it should be possible to achieve worldwide relays of t.v. programmes. However, colour t.v. is still around the corner.

The rapt attention given by the speaker by his audience, and the number and quality of questions fired at him at the conclusion of the lecture would, I am sure, be just reward for his efforts in presenting such well planned and interestingly interesting address.

If I am any judge the 55 members who attended the meeting were very pleased they had decided to venture forth on such a cold and miserable night.

The first speaker at the meeting was Bob 3IC, who is President of the South Western Zone. Bob, at the invitation of the President, gave a resume of the recent Zone Convention at Geelong.

Federal Councillor, David Wardlaw (2ADW), our representative at the Easter Federal Council Convention, also gave a brief report on that meeting, and a vote of thanks was passed to him for his efforts on our behalf. As the meeting lasted from the Friday until Monday, some

appreciation can be gauged of what is involved in these all important conferences.

A meeting which will concern us all even more vitally is the Telecommunications Conference to be held at Greenvale in Victoria. At present we have relied on a team to put the VK case, but for obvious reasons it would be far more satisfactory if we could send our own representative. As the Conference lasts for some months and covers the other side of the world from us, this means no mean task for an organisation such as ours. Perhaps someone has an idea tucked away in his mind as to how this can be done--now is the time to give it form.

The Victorian group of the a.w.l. reports that it has had no response as yet to its repeated requests for opportunities to visit Ham shacks. How about it chaps? Ian Hunt, Secretary of the group, is attending to offer.

In addition to the meeting to be held on 22nd June, a group of Victorian Amateurs will be participating, as Amateurs, in the tracking of the world satellites to be launched during the Geophysical Year. This shows promise of being a most interesting project and should be very practical contribution to the Amateur fraternity. This group would be very pleased to hear from others interested in this work.

Pray, have been out of the news of late, so if anyone is keen to study this form of insect life one is to be found on 14 Mc. using the call of 2OO. Eric, the rightful owner, would be pleased to meet this gentleman and compare notes.

The following were admitted as full members of the Division: George Batty (3AOH) and E P Everett (3ADE).

WESTERN ZONE

George 3GN, whom we have not heard for some time, will soon be on the air again. He has built a new shack with a new rig to go with it. Rig consists of a Geico driving a separate final on all bands. Bob 3ARM has recently obtained a power supply and I guess in the future he will end operating much sooner than having to rely on batteries. Herb 3NN made a trip to Adelaide and while there paid a visit to the Ham section of an exhibition which was held last month.

The 2ATR band was chasing that rare DX with plenty of success, so we have not been hearing much of him on the lower frequencies. Merv 3AO has been busy re-painting his house, both inside and out, using a modern colour scheme; he has made an extra job of this. This rig, in which he is using a type 6 power supply, is built in the rack and panel layout with a pair of 307A in the final for DX bands, and a single one for lower frequencies.

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GEELONG AMATEUR RADIO CLUB

Most of our attention has been concentrated on the South Western Zone Convention, held recently. The work of the meeting was successful and much of the success was due in part to the ladies who attended to the catering arrangements. A comprehensive programme was arranged. The dinner in the evening was well attended and the turkey went round and down throughout our constituents. The election of officers was quickly despatched, and Bob SMC became President and Ted JAER Secretary.

The evening was devoted to films by Len SLM and John SASC, while Bill SHU entertained wives and others at his QTH with t.v. This was extremely popular.

On Sunday a 2 mx and 88 mx to hunt was held and Mount Deller and first on the scene was JARY and Len MONGER. The next afternoon the V.h.f. Group, from Melbourne, demonstrated the technique of fox hunting and to this active band we offer our thanks for generously giving this time in progress. SALT brought his amateur radio gear. Bill SAWZ and Jim SALT got the afternoon picnic events under way. Ladies showed their skill by stepping the chain, throwing the rolling pin, and handling the knife. Kids blew balloons and played games while the men fished, barbecued, or scrambled, or guessed the L.C. circuit, etc.

The old man of 2 mx, Ed JAKE, came out of hibernation and gave us a most enlightening talk on the serials adapted from Ham practice. Thanks to all helpers and visitors to the Convention and we will see you later oscillator. In a white carbon pile.

QUEENSLAND

After reading the President's report in last month's "A.R." I felt that it couldn't possibly simulate such a classical style of writing. In fact even with much practice I doubt if my particular pen could even justify the hackneyed "enlightened" or "the sword" phrase.

So here goes in similar circumstances. I kindly request my other friends to bear with me a while, while I find my bearings.

Incidentally, as I was reading May's "A.R." I noticed the new call sign of 4RP. Ten minutes later up comes 4RP on 40 mx. Brother! The boy's keeping busy.

Doubtless fellas, you have noticed that the new Council has been elected and apart from the usual vicissitudes, it consists of an active body of representatives. Briefly, the positions they fill during the winter hours are as follows:

W.J.A. is concerned, again. President: F. Bond. 4ZM; Vice-Presidents: J. Pickles, 4PF, and P. Dubois. 4UJ; Secretary: J. Rafter, 4PR; and P. Dubois. 4UJ; Treasurer: B. Station Manager: B. Hinkler. 4AO; General Manager: P. F. F. Councillor: P. Dubois. 4UJ; Inward QSL Bureau: J. Files, 4JF; Outward QSL Bureau: Miss O'Brien; V.h.f. Representatives: J. Ross, 4JO, and G. Hill; Divisional Sub-Editor: A. Simpson. 4ZAH.

We welcome Paul 4UJ, Jim 4OB, and Lou Hill as Council members and we wish them every joy in finding out just what they let themselves in for.

Another thing men, if you don't receive this copy of "A.R."—YOU ARE NOT FINANCIAL—and that's telling you!

Of immediate interest, resulting from Federation action, was the allocation of the 58-60 Mc band to the 2nd band. In fact, when I tuned the 2 mx band the night after the news broke, I thought '40 mx was never like this!'

Quite a few VK4s attended the Urunga Convention considering the distance, and heard that the Urunga band weather was unusually warm and agreeable. One H. H. said if he accepted all the invitations to "drop in" he wouldn't be home yet! However, the good time, if I may say so, that our boys anticipated, certainly was had.

Everyone according to the d.c. boys, now knows about the 20 fm. high frequency transceivers purchased by the W.L.A. These will go to ballot and only financial members, residing in the area, are eligible. These units will be 70-85 Mc. Applications in some form must be submitted in writing to the Secretary (together with your over-due sub—sorry old man) before the fourth Thursday in June. These units will all carry the Urunga band and the institution is giving them away for 12/- each.

At the last general meeting (if you weren't there) you missed an excellent film show and lecture on atomic explosions by Mr. Evan Felt. The show was very commendable and interesting evening. We were all surprised at the effort Evan had evidently put into his well illustrated charts.

A Call Book is to be raffled at the next meeting, so boys, get in to win it!

Our own "2Z" boys were recently required the new call sign of 4TA. Good work, Cest! For the 2 mx boys, poor 4PT, languishing up in

Toowoomba, is picking up terrific signals from Brisbane, but can't make himself heard! So what about the boys. Really give 4PT something to remember.

On Friday night, 3rd May, the usual tx hunt was conducted and, all in all, a very good time was had by everybody. Jim 4OB, with the aid of several hundredweight of gear, found the 28 in 28 minutes. John 4PF selected a very cunning site to hide the gear which just goes to show that with a little forethought some seemingly simple spots really have what it takes!

TOWNSVILLE

The usual monthly meeting was held on Thursday night, 25th April, and although the attendance was small, it was one of the most enthusiastic held for many a long time. After division of the business, the general discussion, the general business quickly got into stride in discussing the 144 Mc. project. It was decided to go ahead with the previous plans, giving 144 Mc. a try during 1957. The President: 4RW and Act. Sec. 4PF, to meet at the shack of 4EJ and get things under way.

After closure of the meeting, 4EJ and 4RW discussed their pet hobby—the 144 Mc. beam, including method of tuning and cutting stubs to desired frequency. They were ably assisted by 4JH. 4PF and 4MF are contemplating erection of a mast. The gang had to be checked out, so to speak, to date, this speaking for the success of the meeting.

Eric 4ZL wonders why he has not appeared in the notes—only reason not heard; now volunteers information of working 160 countries on 21 Mc. of which 80 has confirmed; looking at DXCC, phone 4PF, our poor licensee is having great trouble getting on the air—no r.f. and little modulation. Bob 4SMZ sat up to 3 a.m. to work his first W. Allan 4E8 showing little activity on band, due to the weather. Bob 4ZL very pleased now, worked all V.H.F. territories by getting 4AJ on Cocos to complete the score plus six new countries (choosing being VFO on the Grand Turks). Also paid a visit to 4DK at Ayr and showed new towers and with cubicle quasi on 40 mx. Colin 4CE was surprised when he popped in, for Mr. Colin 4CE was not on the air due to rebuilding. Visitors to my shack included 4LX, 4MF, 4PF, 4EJ, 4LR and 4BE; needless to say all gear was carefully watched.

SOUTH AUSTRALIA

About the wildest and weariest night for the year, with wind and rain at gale force, was the atmosphere condition surrounding our last meeting, and in spite of that a good attendance. Mr. G. G. (Gordon) 3MV, to relieve John SKK who gave the lecture the night before. A very fine lecture, too, on disposal equipment recently purchased by the Division for ultimate sale to members undertaking the necessary work, namely the 122 transmitters and the 58Z transmitter. We were lucky in our lecturer, in that John had quite a deal to do with the design and testing of the 122 set, so naturally knew all the answers. It operates

v.f.o. from 2 to 8 mega. from 12v. battery supply with a vibrator power pack, drawing less than 1 amp. on receive and up to 5 amps. on high power. The 122 is a two-tube affair, controlled on phone and break-in on c.w. with receive on key-up.

V.f.o. and receiver tuning is simultaneous, thus providing ideal "peeling." and the use of your own hand heard on the field tests with these units will have gathered the confidence as provided by this feature.

The 58Z tx is a xtal controlled unit with six xtls giving 12 frequencies in the 3.5 and 7 m. band ranges. John also gave us a report on the receiver, 58Z RX, which is used as a comparison to the 38Z. All very interesting and instructive and really created some thoughts amongst most who want to go portable, and my doubt with add to the number of fellows who will have been interested in the emergency net. Thanks, John, for a fine evening.

QSL distribution, and smoke followed, then the assembly went all formal to conclude the usual monthly business.

The Royal Adelaide Exhibition has been and gone, and the Divisional experience has been added to as a result of our exhibit there. Many thanks are due to those who contributed in any way to its working and establishment and although it's not intended to name everybody, special thanks to Gordon 3MV who devoted his shack to provide the equipment, tx's 40-20-10 mx, and the rx; it is regretted that varying line voltage plagued such havoc with the tubes which partly resolved itself with the use of 38Z RX, but the line was not quite right. John 3MV, Gordon 3MV, John SKK, Graeme 5XV, for their work on the tower and antenna generally, and the rest of you for wiring, operating, loan of cards, etc. etc. etc. Truly, though, not the best h.f. boys who sat by their rx's and 1 rx tx's by the hour to provide the links. Neil 5ZB, John 5ZB, George 5GK did a mighty fine job in this section and were the means of making DX contacts.

We welcome two new full members in Gao, Ramsey (5GD) and K. Laurie (5AK), as well as associates, M. J. W. Mitchell and B. G. Booth.

The T.v.i. Committee has a new Secretary in Bob 5PU.

Heard Graham 5GE making a contact with 5WZ recently in which he stated it to be his first QSO in two years; use that gear more often friends you'll be surprised at the beautiful signal, well modulated and using about 9 Ke. only, something quite a few could copy to advantage and to the general benefit. Frank 5MZ is no longer to be called OM, no Sir. Gordon 3MV, come on in and say "Hi". I'm told (and not by the VK spy—either), a fine bouncing junior op. entered the Bentley family circle. Frank has already made up a transistorized practice cond set and obtained a junction copy of the "Handbook" so that your fellas is to have it. Talking of Frank, that young fellow is to have a "talking" of his own, it is also from his neck of the woods, he heard SWI call CQ on 20. Frank replied on 40. 5ZBA heard him on a teeny-weeny 20 mx hammonium, replied to SWI on 2 mx and enabled the SWZ transmitters. We were lucky in our lecturer, in that John had quite a deal to do with the design and testing of the 122 set, so naturally knew all the answers. It operates

as a 122, 144 Mc. and 58Z (VK spy—either).

Keith SKH has been heard portable at Port Lincoln with 6 watts and an aerial slung out

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the hotel window 5 x 7 in Adelaide, so not bad. Keith, Chas SON had the bad luck to lose his antenna feed lines and supports during the storm mentioned earlier, but has since made a repeat performance impossible. Both SHF during a QSO has been heard to query Les SAX's claim to working an OZ; Bob reckons that is not a call area but a transistor. Anyway, anyone could make a QSO with a transmitter. I'm sure Les would be the one to do it!!!

Don ZAMN complains of lack of spare time —why? He works (?) at a certain very d.e. t.v. from 0600 to 1800 hours, then about 1000 more overtime 2000 to 2200 hours. Nams from 2200 to 0400 hours, and has the rest of the day to himself. Anyway, that's how it sounded when he was describing his activities the other day. Col. SRO, ZAMN, age 20, desires 40 for which Col? 44 countries in six months not had. Athol SLQ booked four new countries on 20 recently, but has not as yet consolidated his ideas for G4ZU beam, have a look in on Les SAX's beam, he has just set up a new incorporating a f.b. job too. Reg SQR really finding his way around on with the G4ZU, whilst Bill S2AK hasn't raised his beyond the XYL's clothes line yet.

Heard a strange voice from JLM's QTH over Easter, sounded like Joe ZRO, to whom the Prop. was, however, extending the usual hospitality. Warwick SPS and yours truly had our annual QSO whilst he was at Oakbank, an event of note, because it proves he has paid his license fee, had not been banned from the air, and can operate. His beam is very well. You note the 'as' well and not just plain well! Frank SLX heard portable/mobile marine M.V. "Papa" over Easter, sounded good. Frank so also did the f.m. autonome. On Easter Sunday 100 m. engined up and on. Lesith SLO advises a new G4ZU which he planned and erected entirely on formula and complaints cannot get below 5.8 on DX. Bad luck Lesith!

SOUTHERN ZONE

Col SCJ now in new shack and Claude SCK had honour of first contact on 144 whilst SRS had that privilege on 1 mega. fine Col. let's hear about the move some day. Eric SKU very quiet these days, but in spite of that works a reasonable amount. Eric is a good man for the right time pays divs for that work and Eric seems to know the right times. Tom BTW back on 40, at last with a new modulator 100, nice to see you. Tom's Television still runs. John SJZ stuck at 144, and has got off the Ham bands. Stewart SMM still zephering about but heard on 16 (and 40) occasionally. SMC SAU heard now and again on 80, but does not appear as active lately. The graphite coils must be getting a bit porous — that's where the allotted hours go. Wally SPS is switching interest to 144, with Claude SCK also contributing to that band.

NORTHWEST ZONE

SWC had (yes past tense) a 40 mx beam horizontal, or at least they had it whilst horizontal and until it was raised 40 degrees, then lo and behold they had two 50 mx verticals, but this time not vertical either. Then the other thing heard in the middle of the night with all the soldering expertise. Maybe there was too much grog left in the tins prior to joining them up or Burm's SQR may have given a heave when he should have just bent. All the same, they have "had" been verticals.

Funny thing up there, do they hear the SWL session each Sunday, but figure that they get it the "long way round" whilst all other VHF signs come on a short wave.

For Lincoln SPS says reports all quiet over there with one exception, guess who? That character F— SPS, yes, he has bobbed up again and has got the fishing spots in again, and so far as I am fully informed is complete now, the reported missing presumed dead percentage has gone up a lot.

In fact it is even said Warwick admitted to throwing the little ones back at the present they will be from the first line with the ones that fed the family being lined in by XYL.

The next bit is quoted as received, poor Wally SPS. We never suspected it before, but this is what I heard. "The other Sunday mom I heard my old dog make some strong comments about the wind, and signals getting into Adelaide at poor strength, then lo and behold he dashes outside and grabs my copper XYL. He begins to bark and though the electric business has really gone to his head, when next I see him making frantic dashes at his xmitter feeders to the half wave something or other, and then return inside with a satisfied expression on his face, and later I him with a sign not to be still wonder what the copper stick had to do with it. From XYL of SPS."

WESTERN AUSTRALIA

The Annual General Meeting was poorly attended on April 11. The main business at the election of officers. The main officers and officers were re-elected, and the President, SRA, thanked them for their support during the past year. Membership figures remained about static, but the financial affairs of the Division were in a healthy condition.

It was decided to give publicity to the fact that Council meetings are open to visitors provided that prior notice is given, as the meetings are held at private homes. During one of his many visits to the metropolitan area, the writer was able to attend a Council meeting early in April, and met many members for the first time. Interest was centred in the impending visit of our delegate, Roy Hugill, from the Federal Council, and great disappointment was expressed that VK5 was not to be represented as it was the first meeting of the Convention to be held since 1953 (before the advent of tv!), and was provided with an excellent opportunity to discuss Amateur Radio problems — so essential these days if we are to enjoy our hobby to the full.

In VK5 the bands are very well occupied at present, even extending the usual hospitality. Warwick SPS and yours truly had our annual QSO whilst he was at Oakbank, an event of note, because it proves he has paid his license fee, had not been banned from the air, and can operate. His beam is very well. You note the 'as' well and not just plain well! Frank SLX heard portable/mobile marine M.V. "Papa" over Easter, sounded good. Frank so also did the f.m. autonome. On Easter Sunday 100 m. engined up and on. Lesith SLO advises a new G4ZU which he planned and erected entirely on formula and complaints cannot get below 5.8 on DX. Bad luck Lesith!

On the QRP side, over Easter week-end, S2A had a solid phone QSO with SHF/P (near Albany) using 0.34 watt from a 100 set on 40 m. Approx. path 300 miles, and also to DFC over about 200 miles. Now's that for miles per watt!

On 20 m VK6ZL at Mawson was contacted on 20 m SSB signal at 1900 hours on 22nd April.

On 20 m DUVIS, VBRGX, some ZLs and several SWLs have been worked during the evening, whilst CEASAC has been coming in well, and an early morning session disclosed many Europeans coming through in good strength.

On 40 m South Africa and Europe are needed at night and early in the morning.

Limited Licenses in VK5 welcomed news that they are permitted to work 5 metres from 1st May. Several set to work on gear and vowed they would start working the band at once. The public highlight on the morning of 1st May, HAD. They are now looking east for 5 m contacts. What about it VK5?

Congrats to Jim 6TR on his recent success with the C.O.C.H. examination.

To those interested for the month here is an appeal, and an invitation to any VK5 Amateur reading this to join the Institute if you are not already a member. Bearing in mind the fact that the greater part of your subscription goes to the Institute, the State Institute and the local Divisional Bulletin each month, surely the balance left is a small amount to pay for Federal and world-wide representation. A country member who cannot attend meetings can use the Institute Institute by exercise of his voting power on matters vitally affecting himself and Amateur radio.

TASMANIA

"A horse would be more careful, and a pup would."

But Hams is born to trouble, as the saying goes."

This month's hobby thought is selected from Soliloquy on a dropped SIS, one of the deeper works of one of our lesser bards. One, Rattle-pike. And TAB has returned safely from the Federal Convention despite the difficulties of our agents in Victoria. The same Dutton, by the way, mentions that four Hobart stations currently appear on 144 Mc. at 8 p.m. each Sunday: TAB, TAJ, TLE and TJD plus two listeners, Bruce Watson and David Horner.

An old-timer, Hubert Lovell, was the May lecturer. ATHL that indeed was his call

sentation on doing more and more with less and less, with transistors.

For something newer, congratulations to Roy Hugill for his recent appointment. The position may be stationary, however, for the trout population: TCK puts them in up north, and TBR hooks them out in the south.

There should be a Brack bashing the brook at Walyalup, so by the time you receive this by which time also your article may be able to change his address. Deep water, on the other hand, has been traversed by both TQAT and TCH recently, mobile-marining around the coast, and TCH has recently made the little Type A Mark III on 40 and 80 m. and reports the new craft all that she promised to be. And talking of craft, gentlemen, some news of your doings will put you in the magazine. Who knows? No news might, too.

NORTH WESTERN ZONE

I heard a VK5 on the air recently who announced his age as being 82. I hope I have a voice as youthful, carrying still the vibrant tones of Ham, making his first contact, when I approach that age.

A welcome is extended to a VK5 who has seen fit to make his abode at Rosebery, of all places. He is John SWL who, having recently passed his 100th birthday, now has to go underground to find out who the ZC ZO deems mine. How about some underground test?

By the way, if you pay five bob from your first pay to our Hon. Sec., Sid TSP, he will give you a refund, and you will obtain a member of our N.W.Z. for example, can't?

I'm afraid what with Easter and Anzac Day, I haven't been able to get around to our Associates yet, but I have heard that some of the full members, as well as our Associates had quite an interest in the final on Anzac Day.

Flash! Latest news on Field Day. Associate Gamble gambles with a loop and gets there! Believe it or not, he had the 10 m. loop antenna hooked up to his listening line by himself, and was in time to make the final on Anzac Day.

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